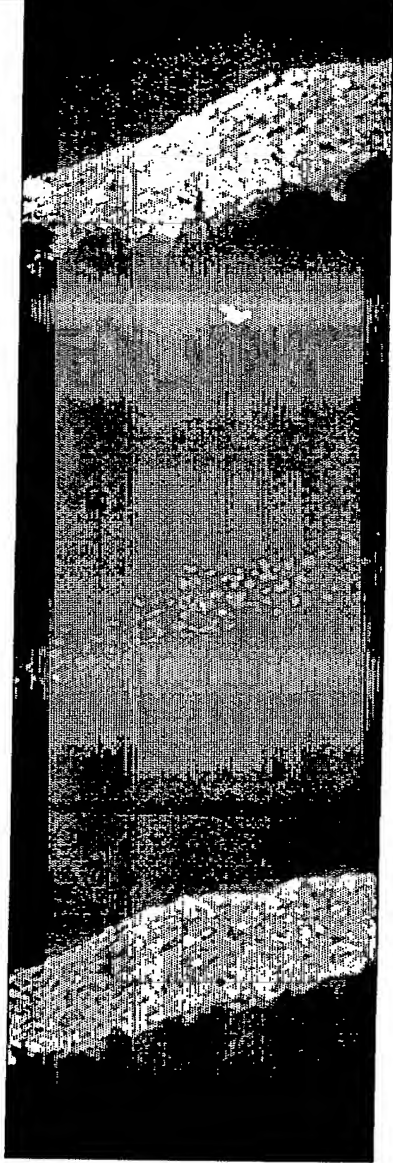


FIG.4

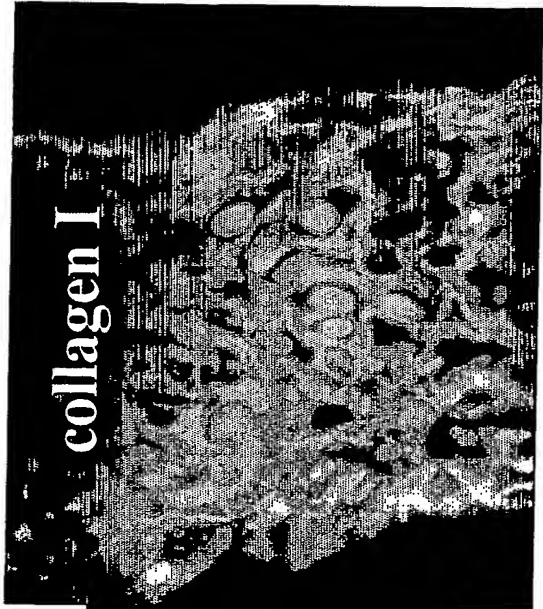
collagen I

collagen II

collagen III



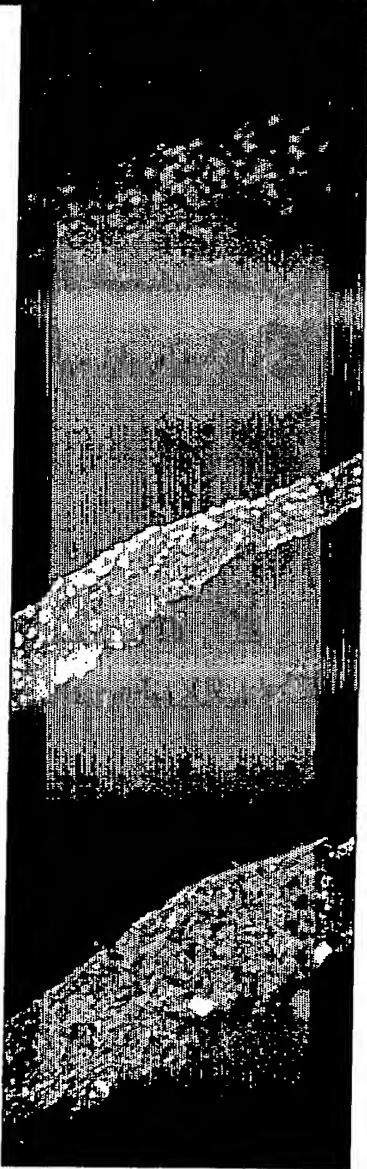
collagen I



fibronectins

vitronectin

negative
control



vitronectin

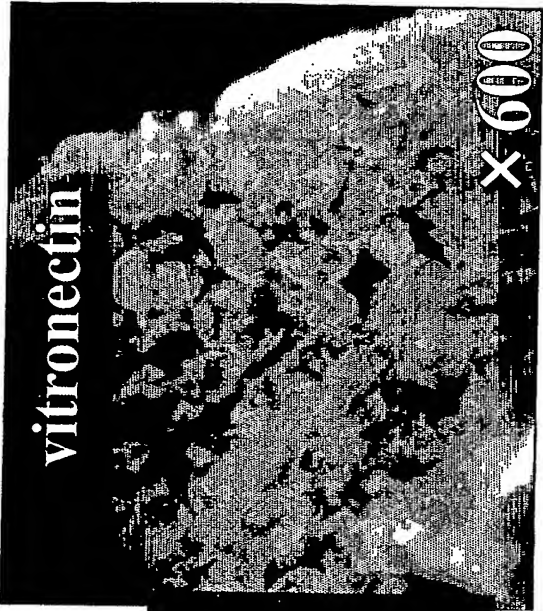


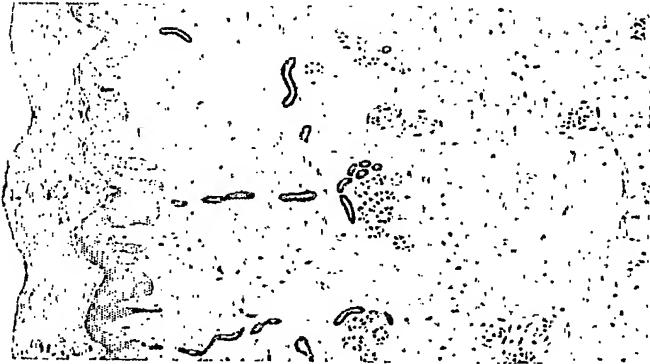
FIG.5



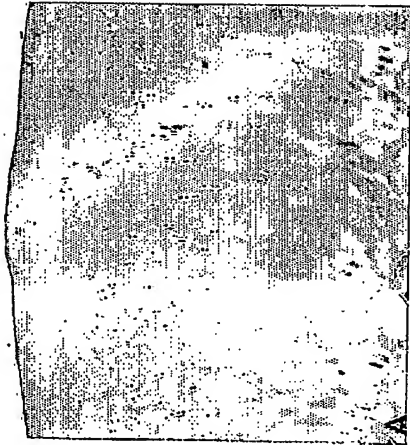
Normal synovial membrane tissue



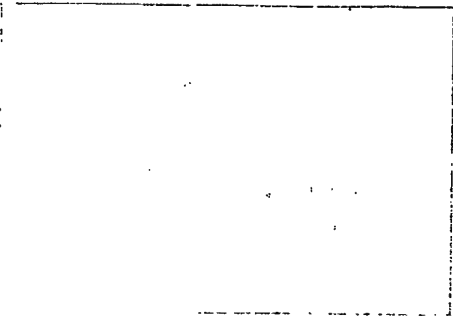
Normal tendon tissue



Normal skin

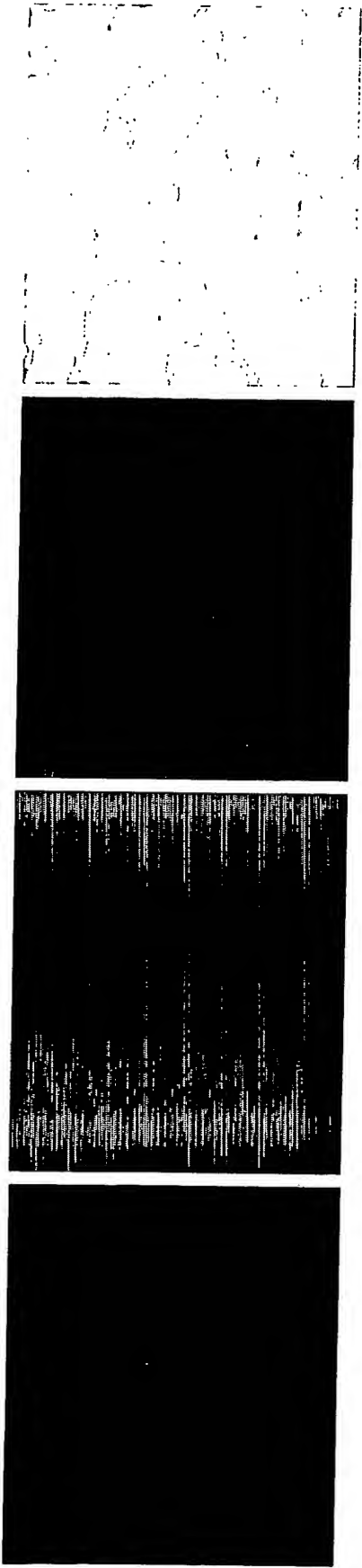


Normal cartilage tissue



Normal meniscus tissue

FIG.6



fibronectin

Vitronectin

**Negative
control**

HE staining

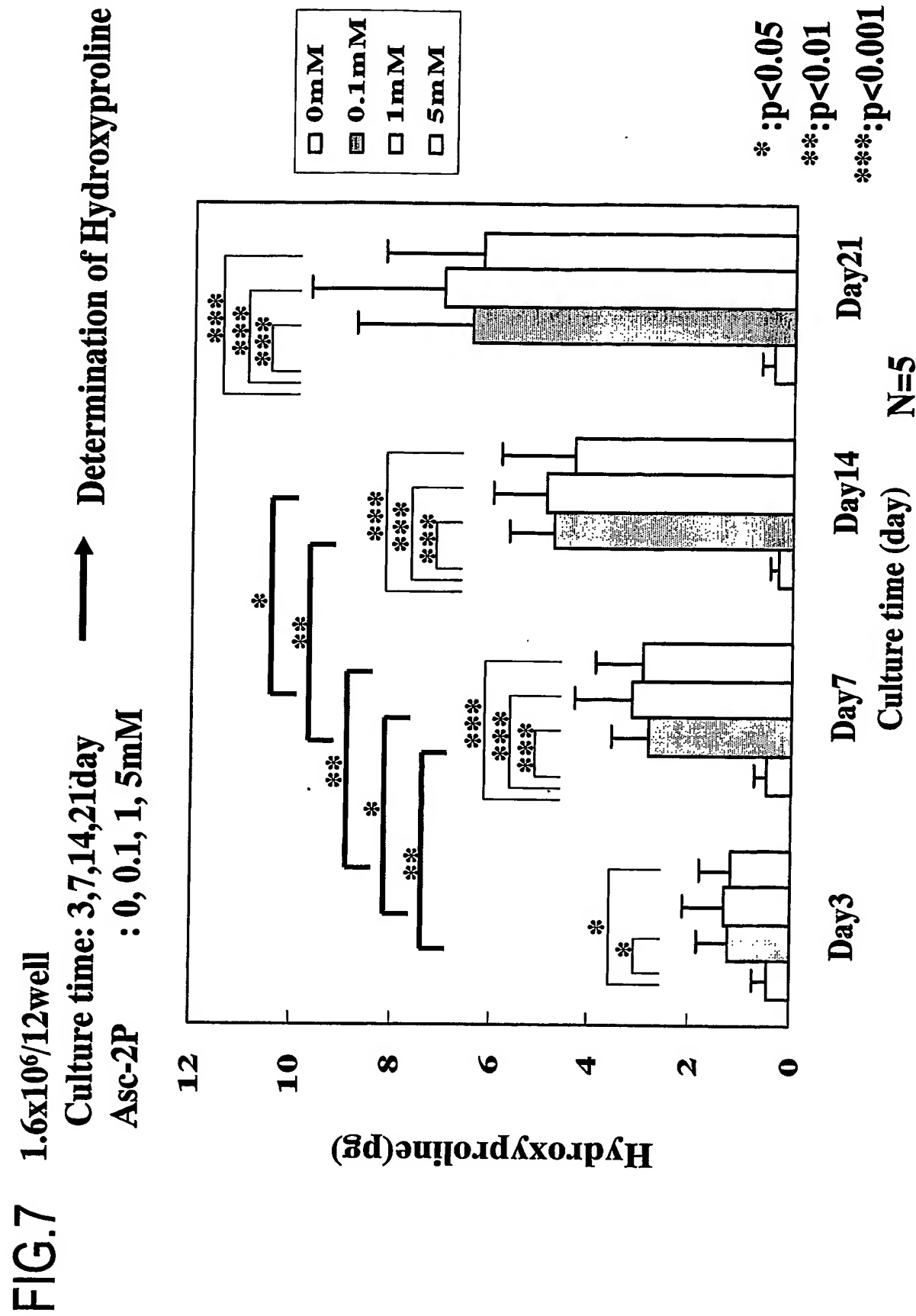


FIG.8

1.6x10⁶/12well N=5
Culture time: 3,7,14,21day
Asc-2P : 0, 0.1, 1, 5mM
→ Determination of Hydroxyproline

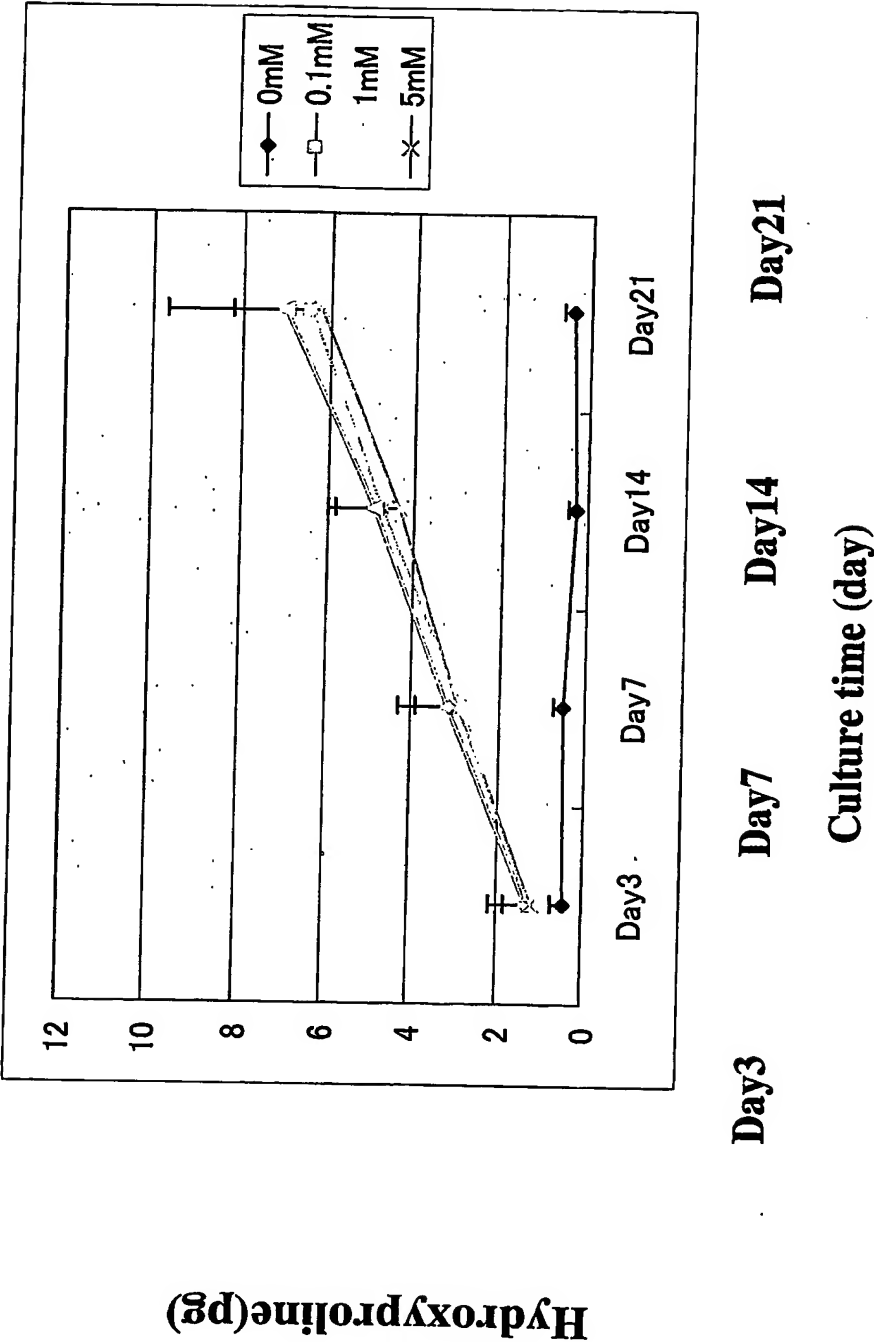


FIG.9

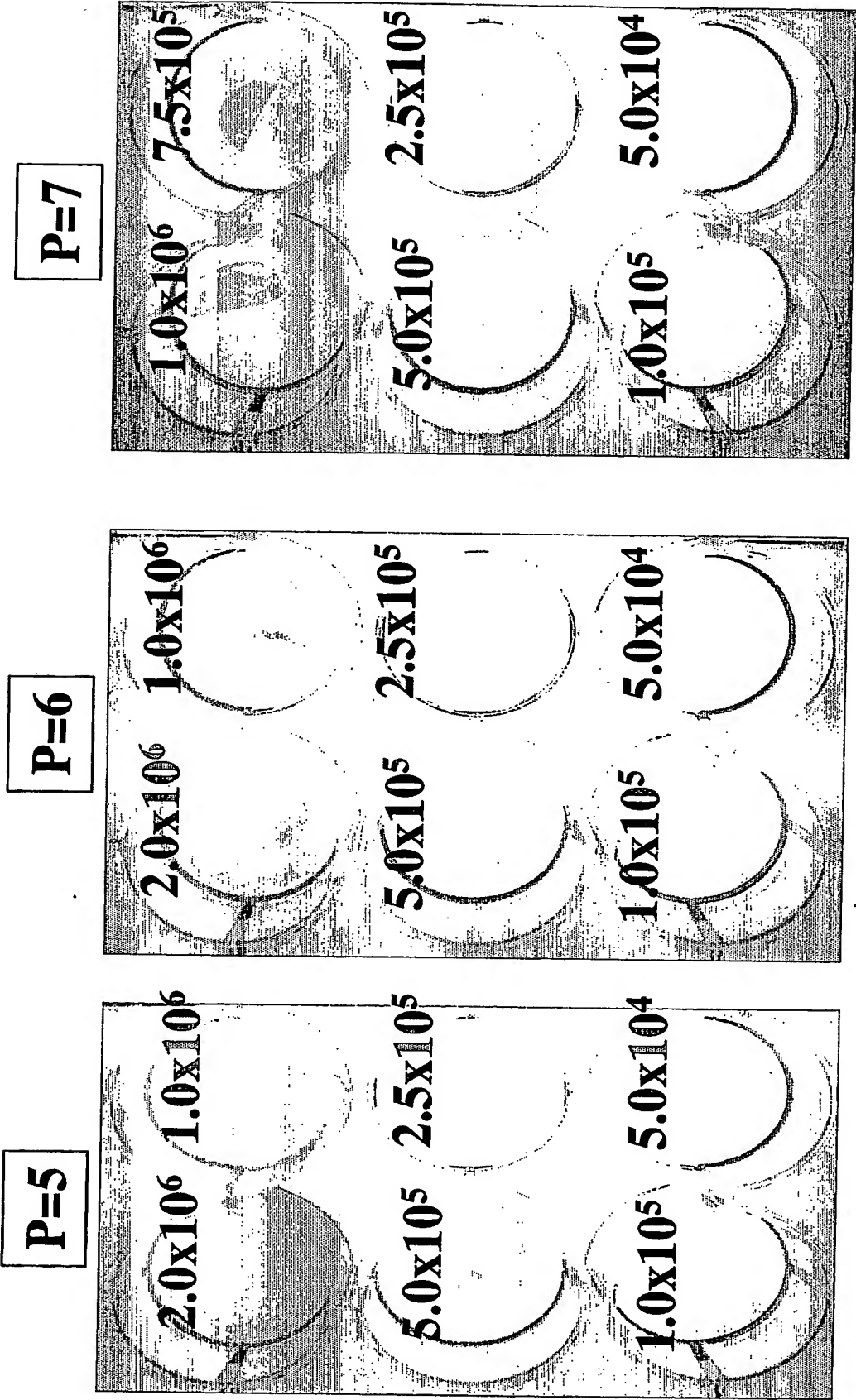


FIG.10

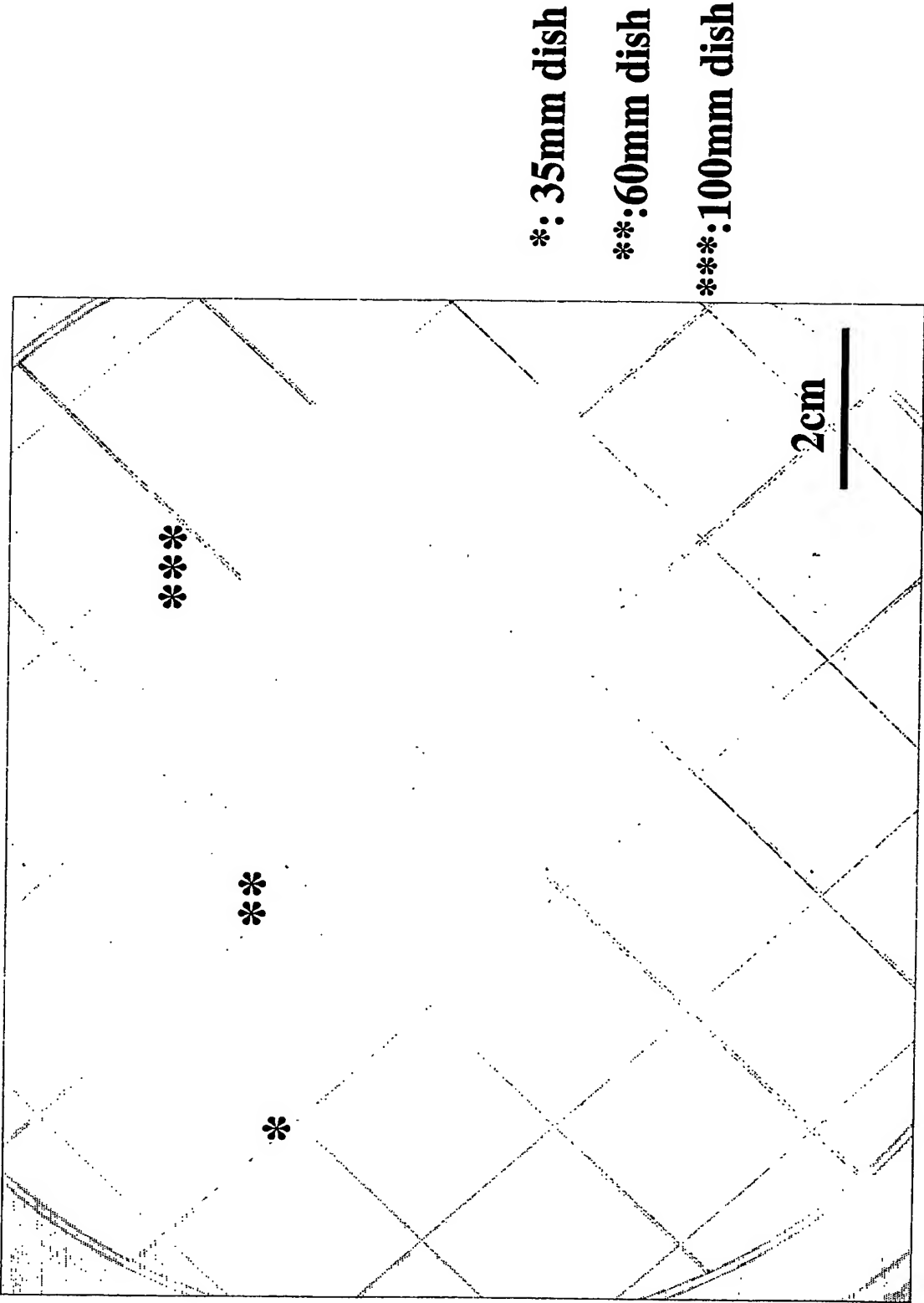


FIG.11

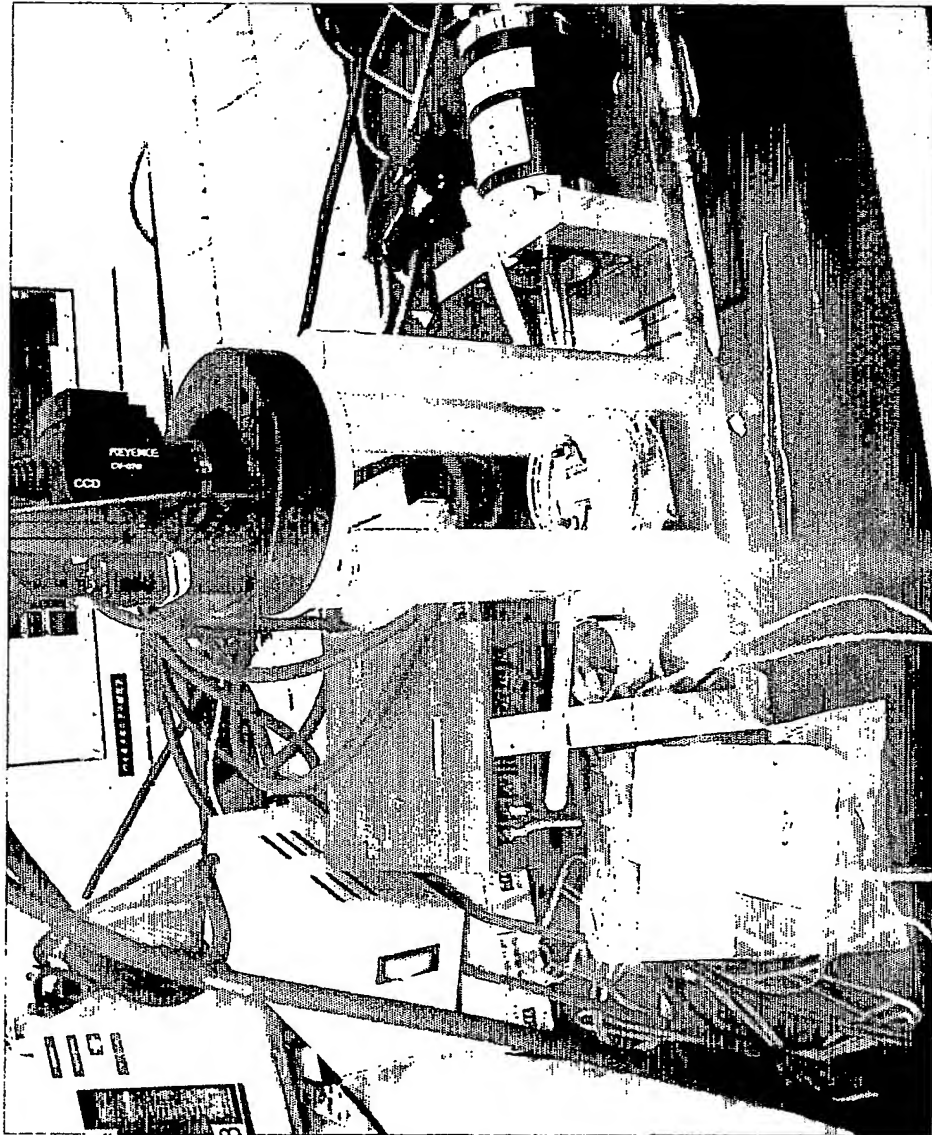


FIG.12

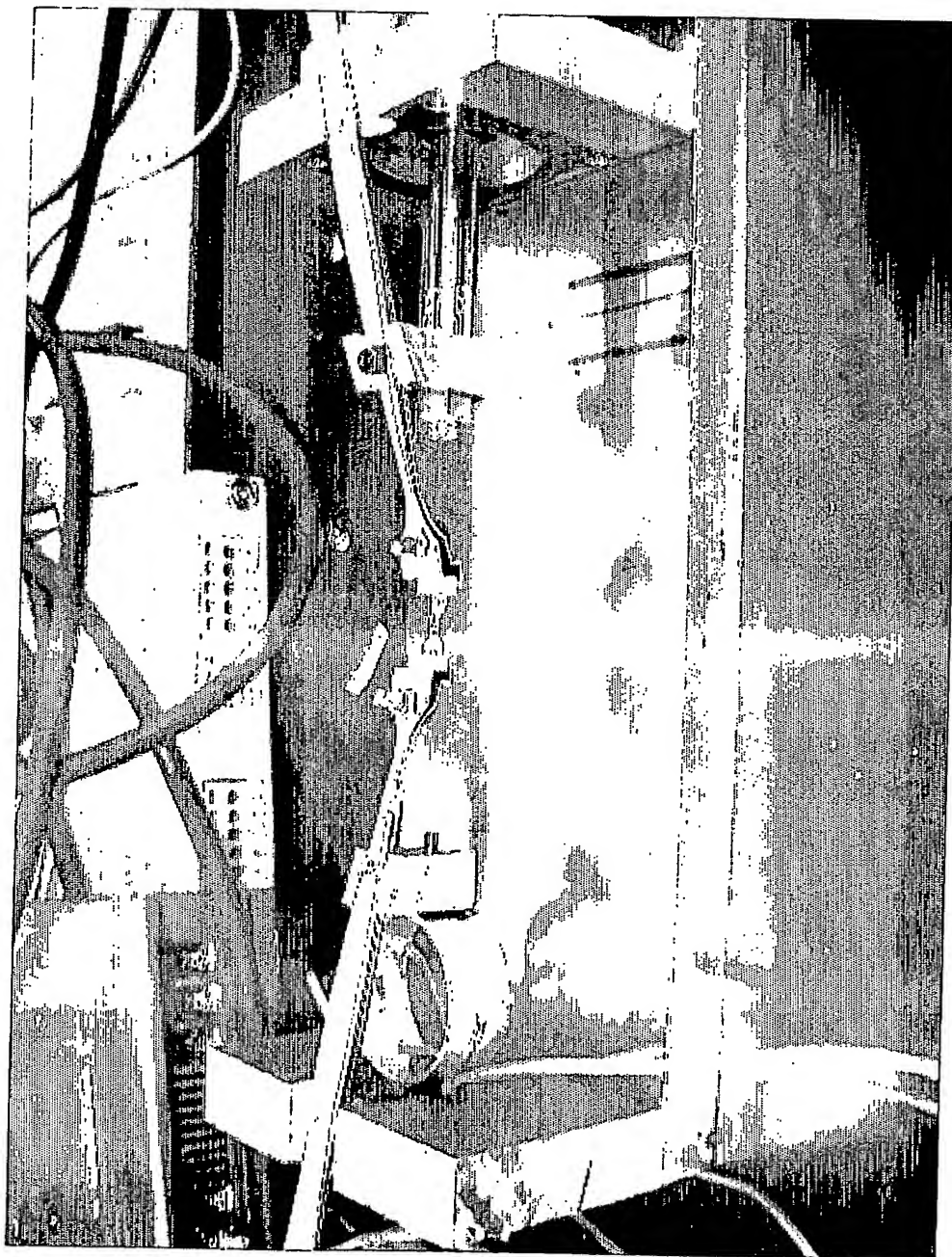
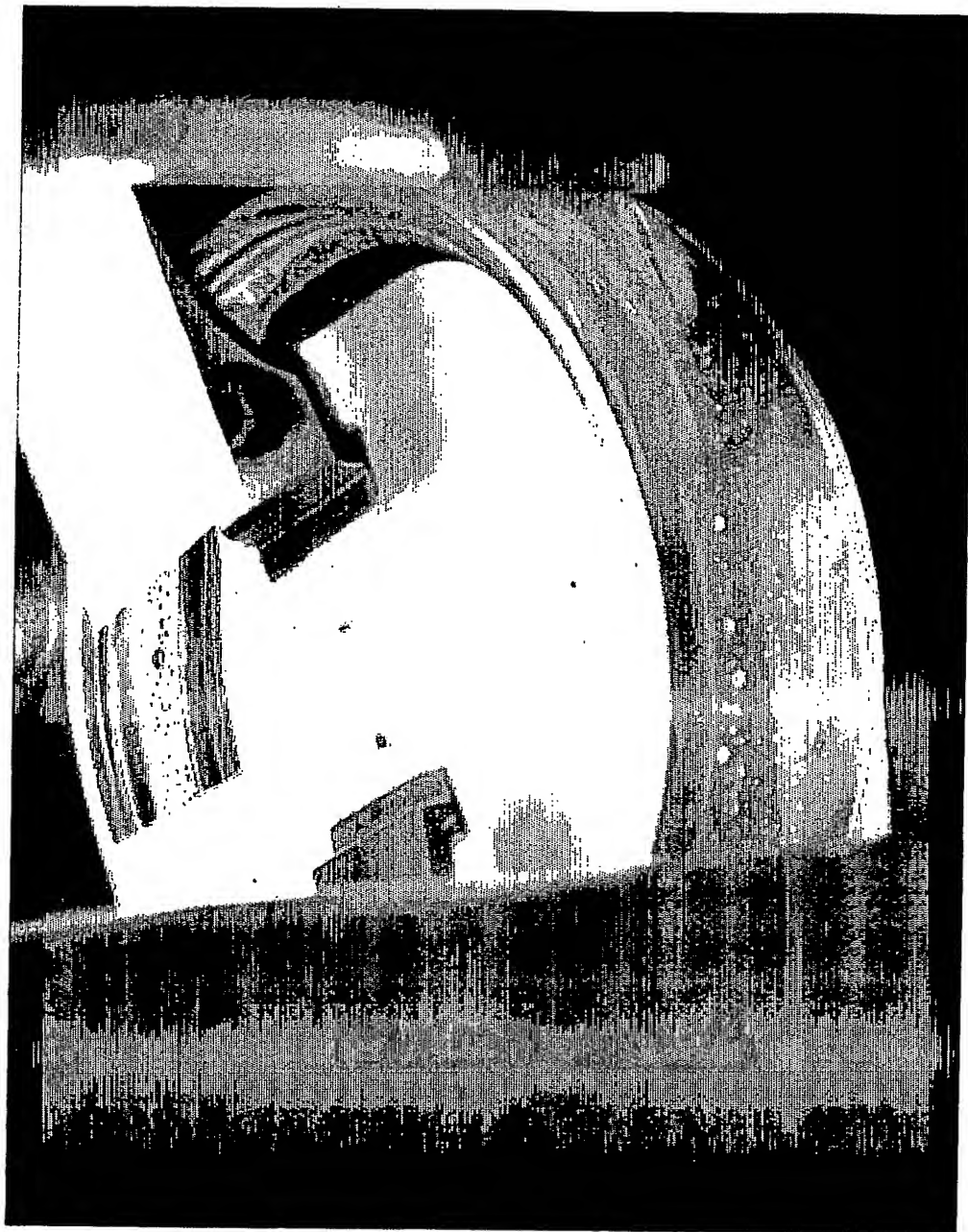


FIG.13



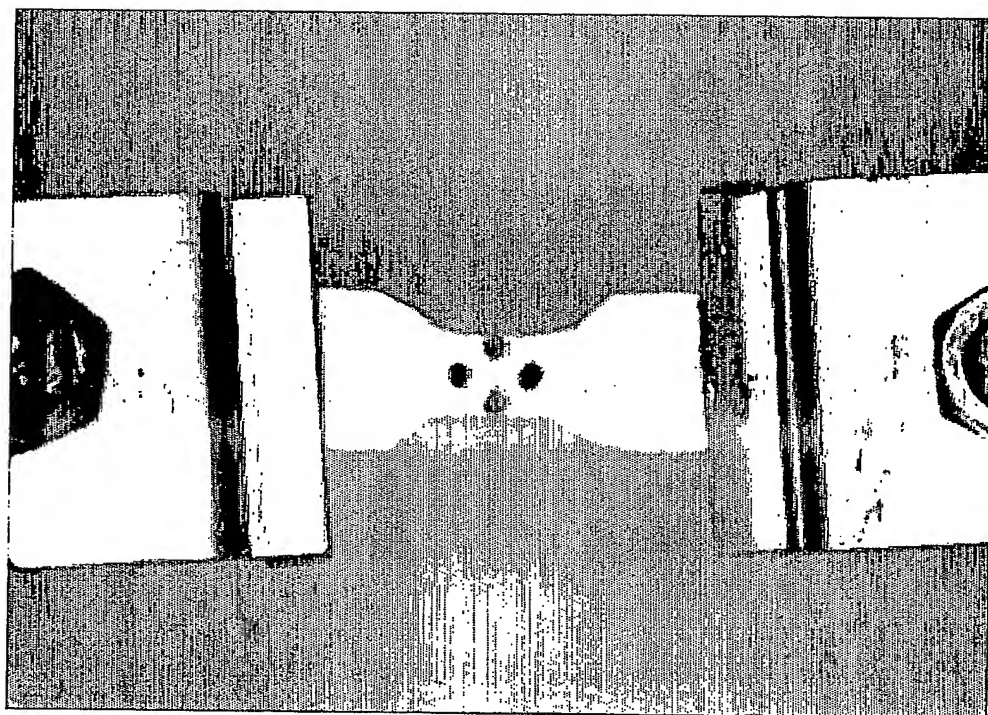


FIG.14

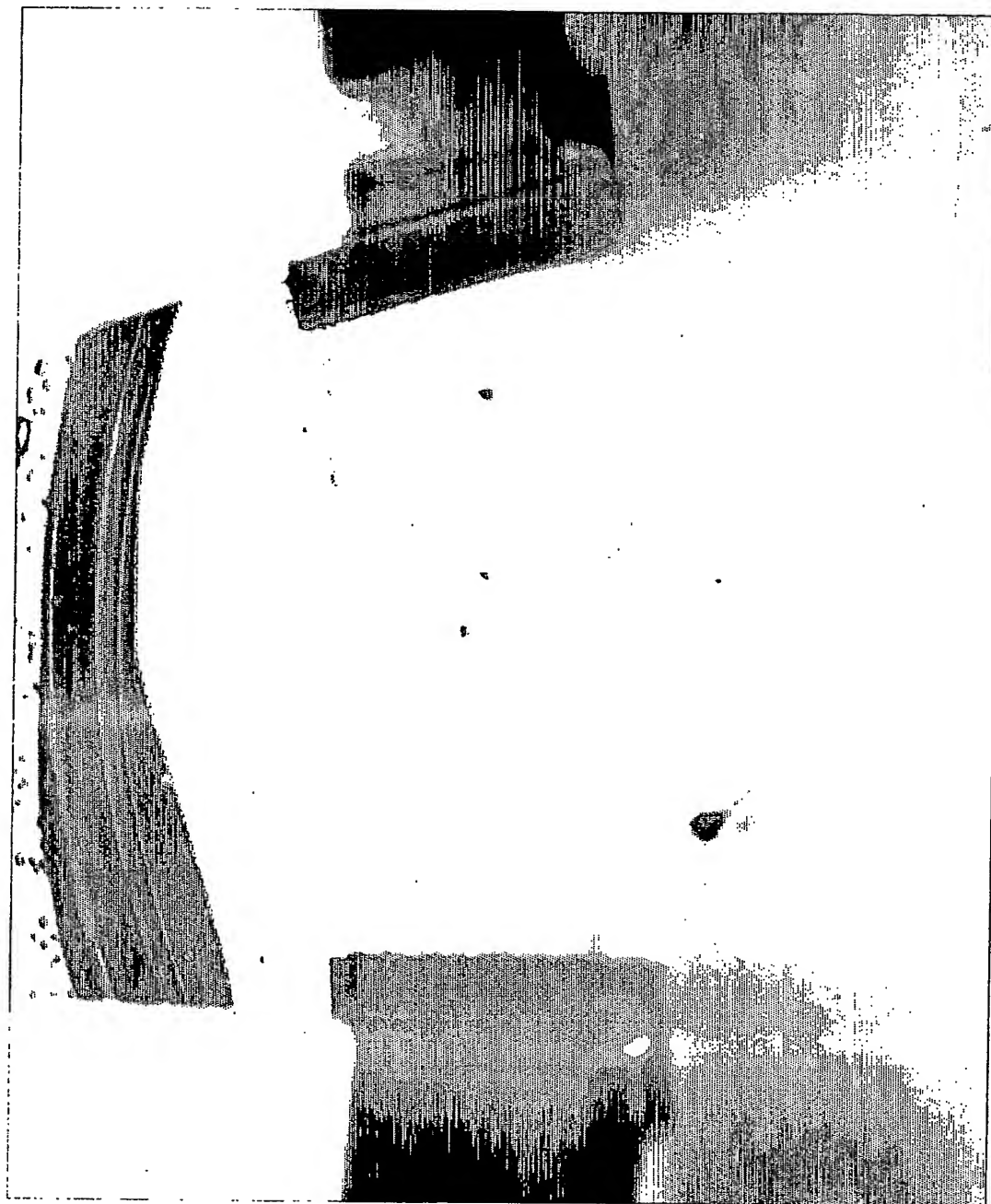
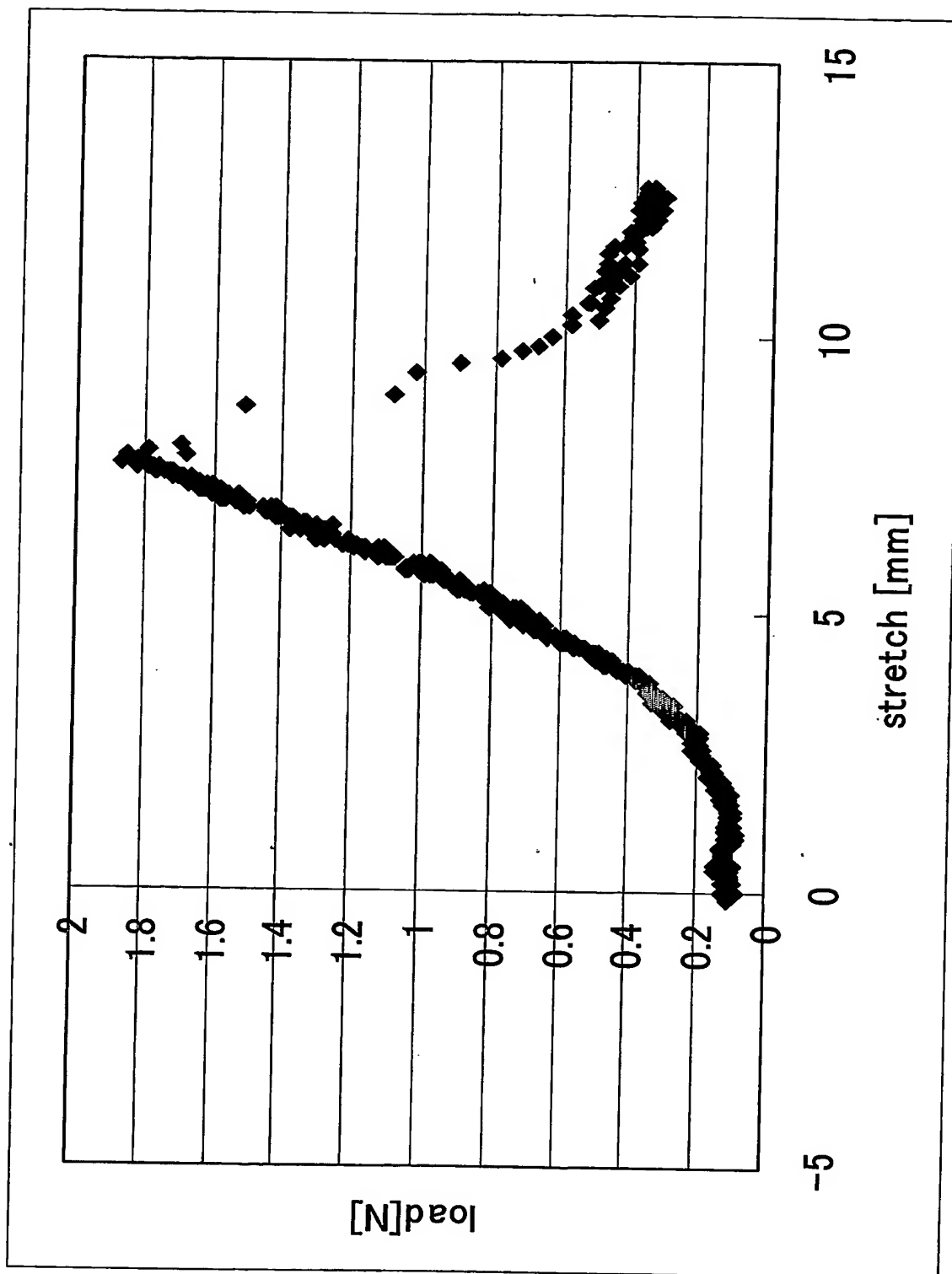


FIG.15

FIG.16



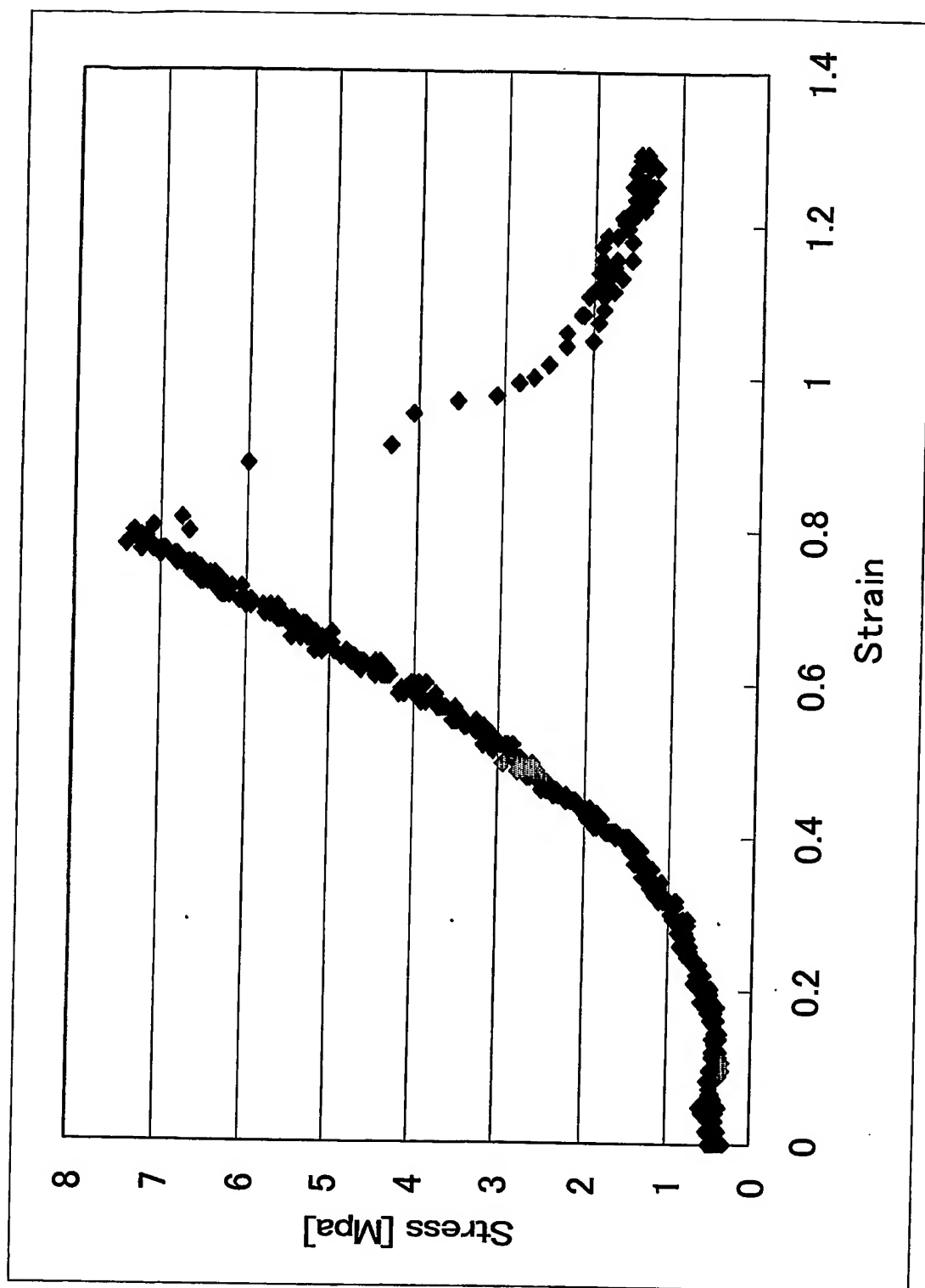


FIG.17

FIG.18

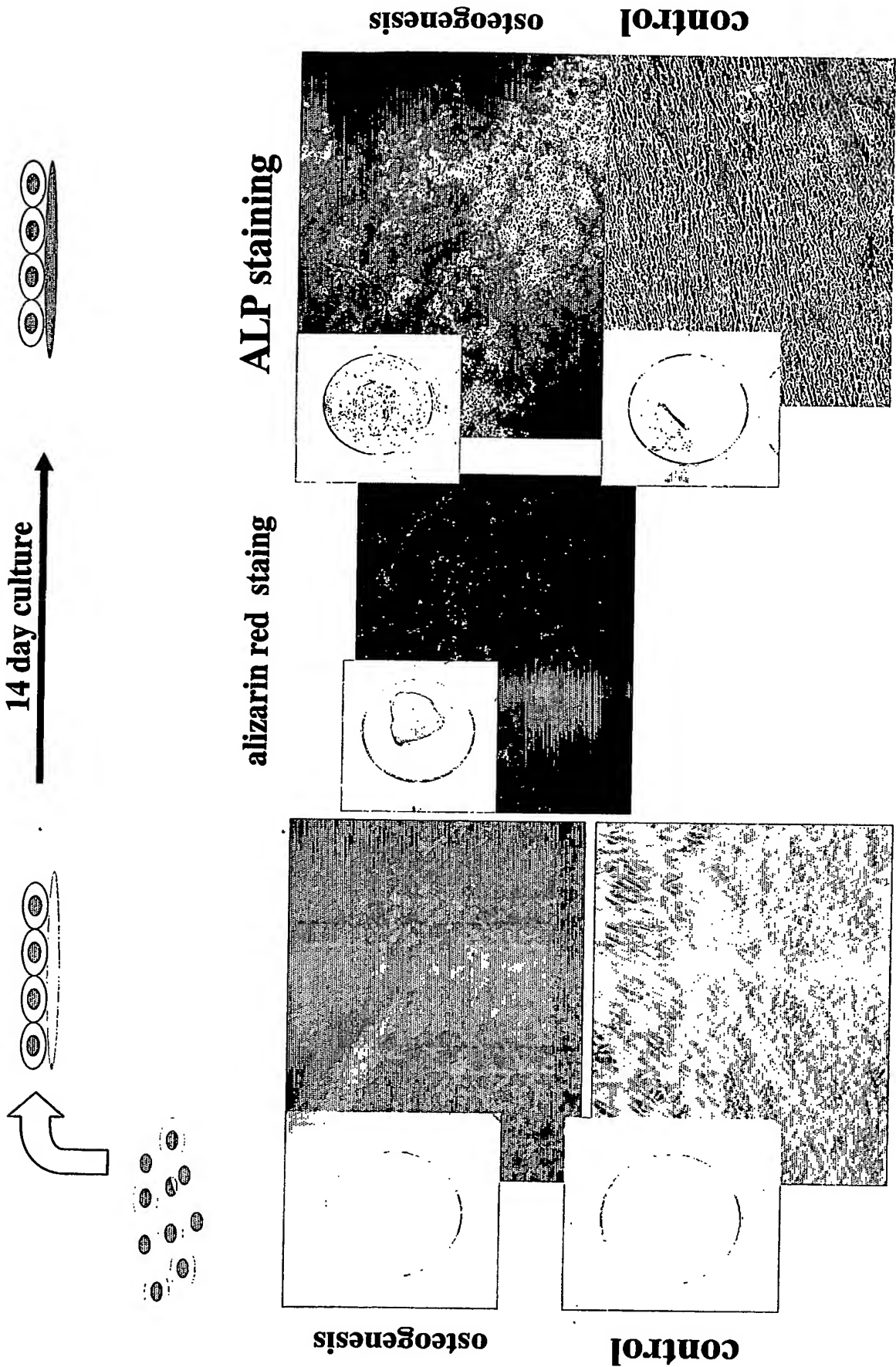


FIG.19

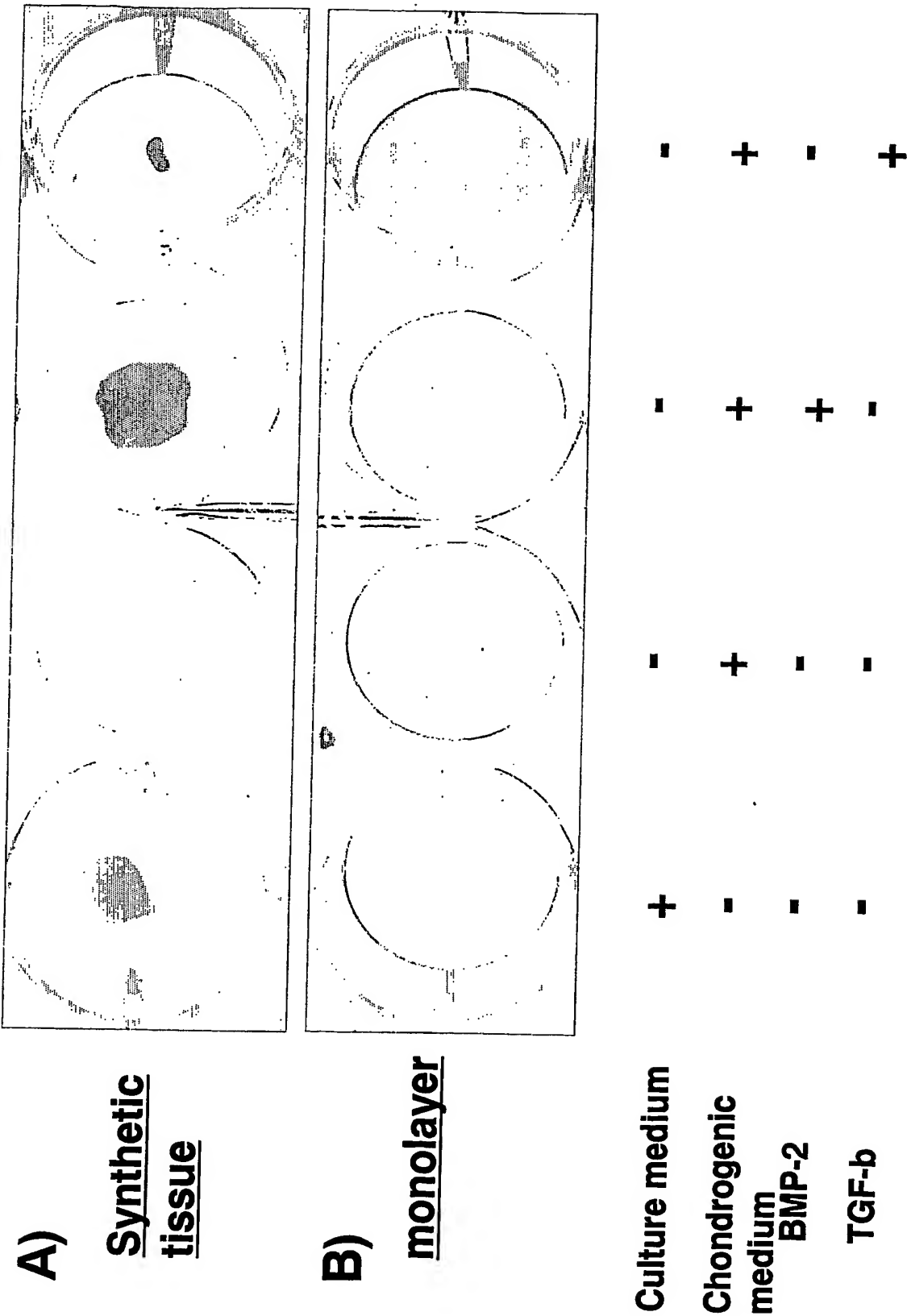


FIG.20

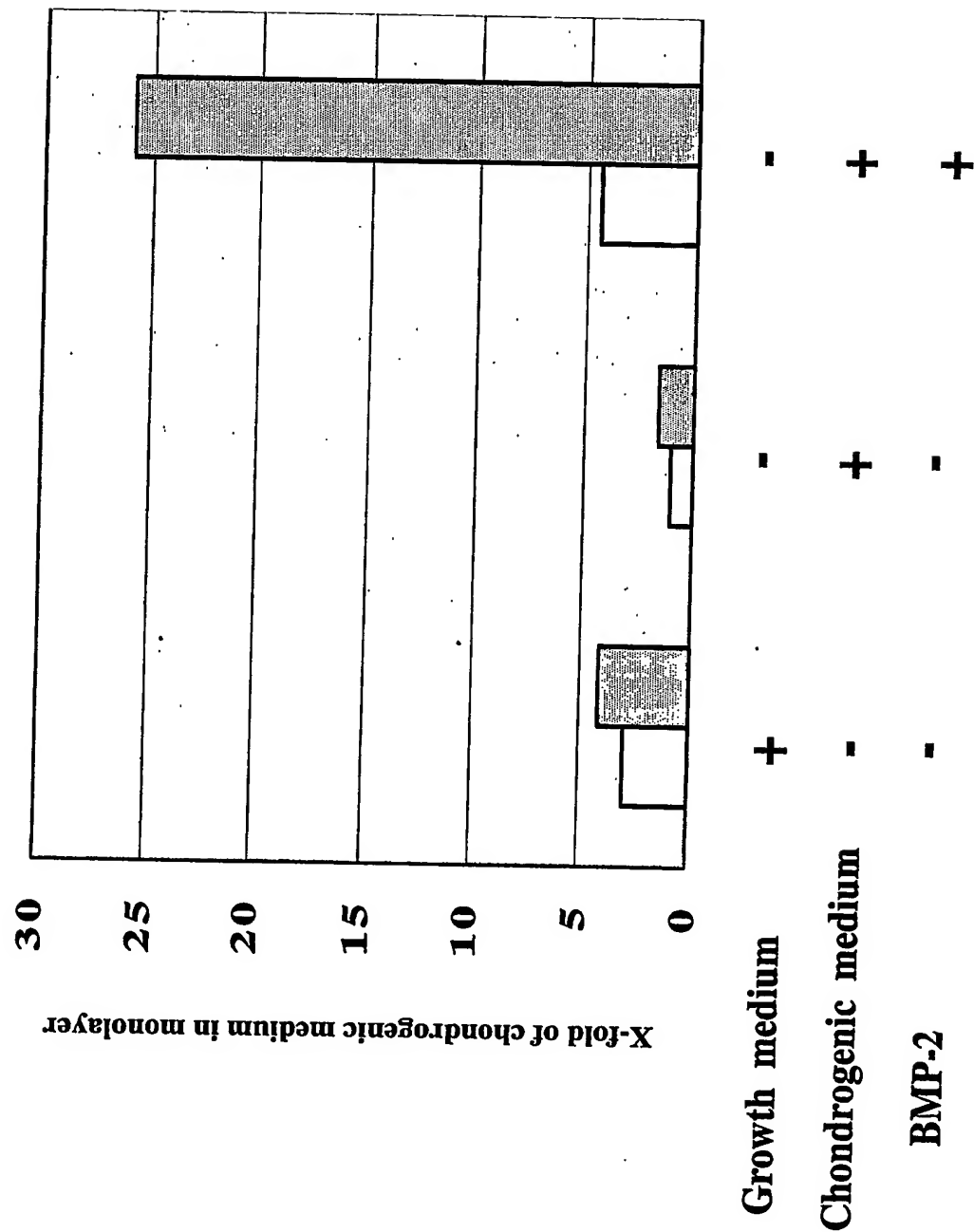


FIG.21

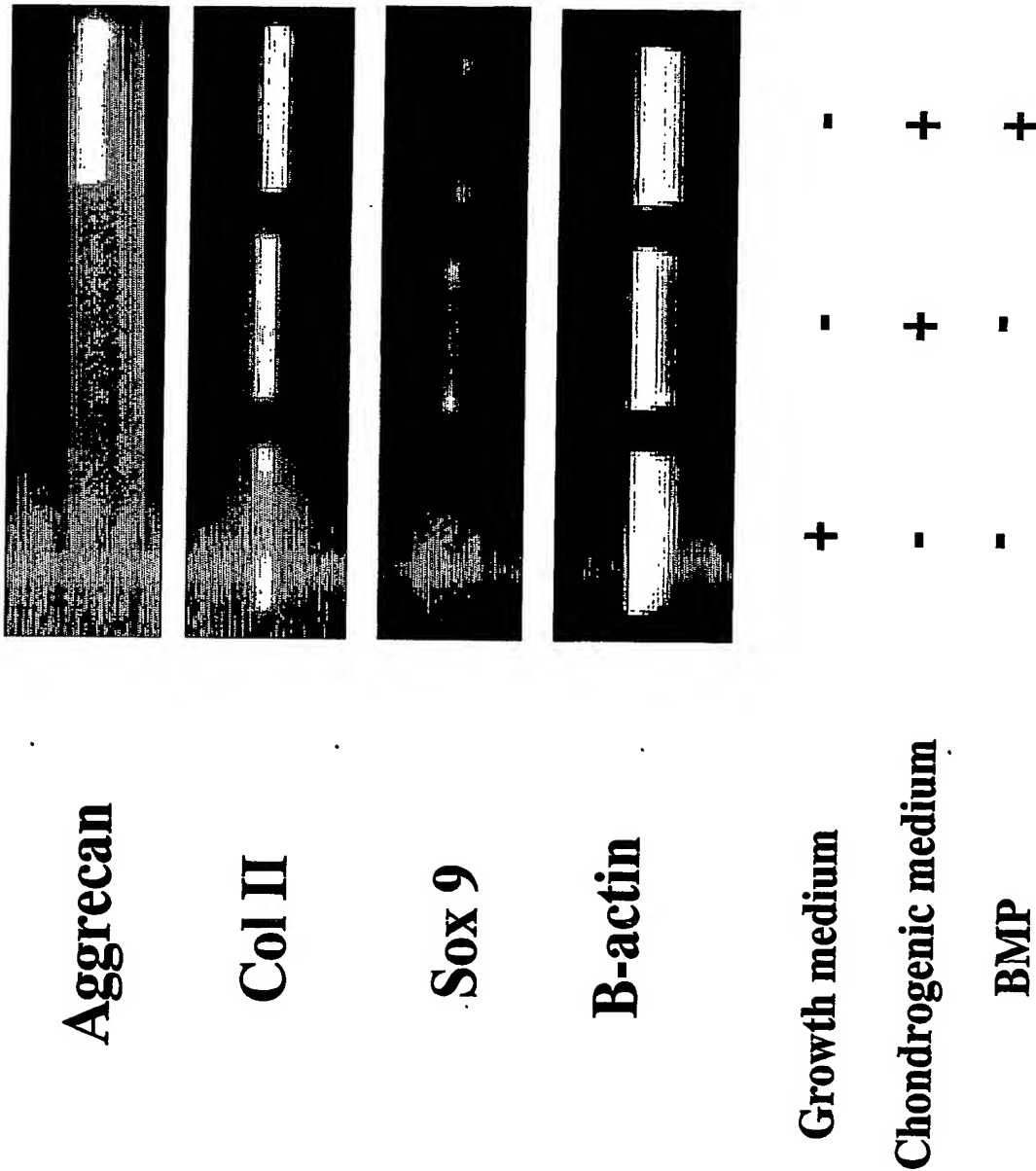
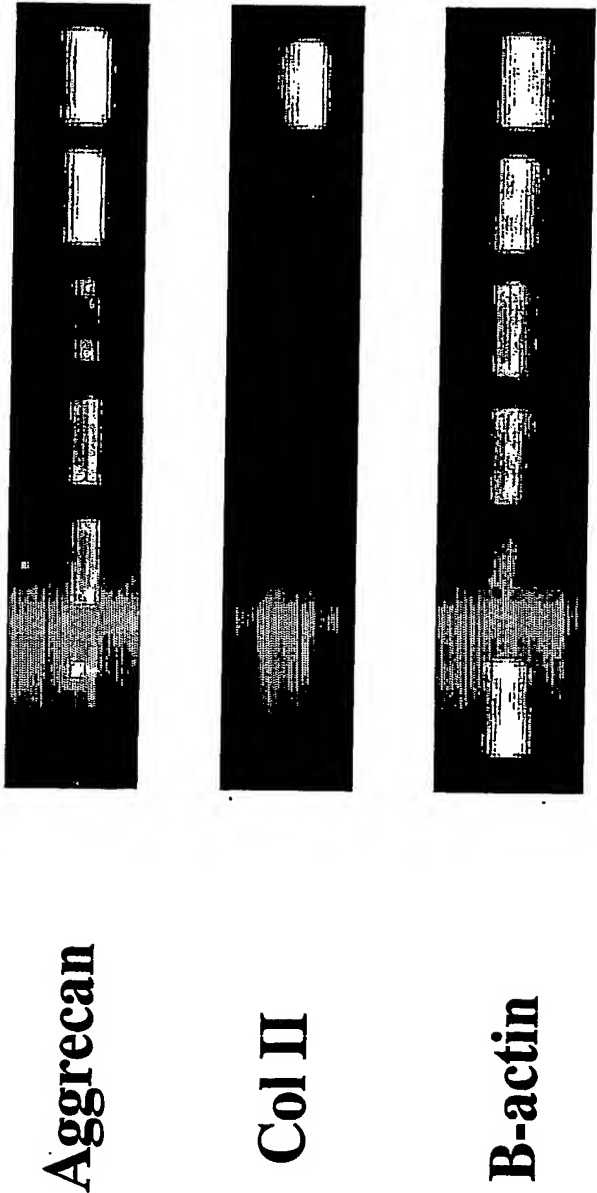


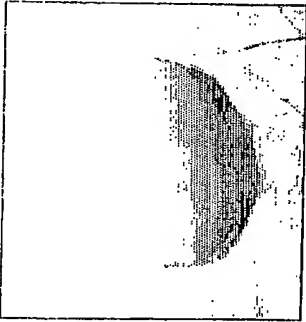
FIG.22



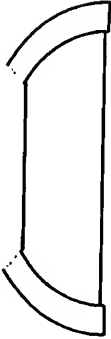
| | | | | | | |
|----------------------------|---|---|---|---|---|---|
| Growth medium | + | + | - | - | - | - |
| Chondrogenic medium | - | - | + | + | + | + |
| BMP | - | - | - | - | + | + |
| Synthetic tissue monolayer | + | - | - | + | - | - |

FIG.23

**remove superficial zone
digested with
chondroitinase ABC**



(Hunziker EB. JBJS 1996)

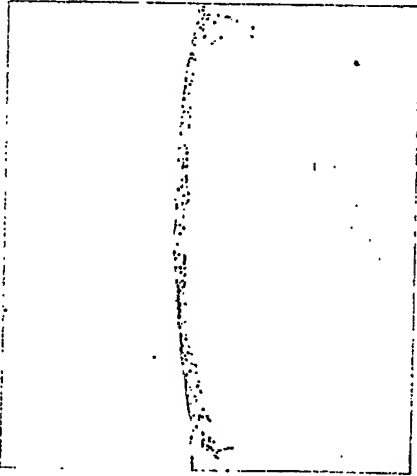


**Cultured for
7 days**

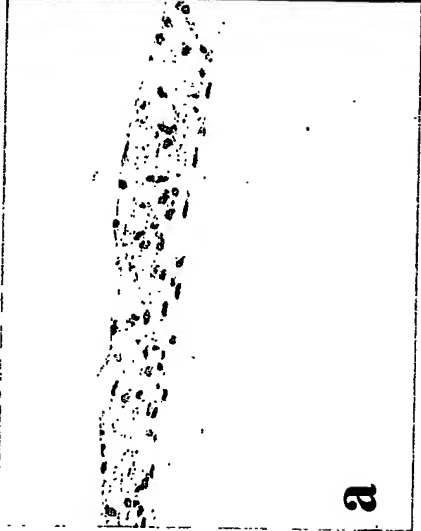


HE staining

Fibronectin



x40



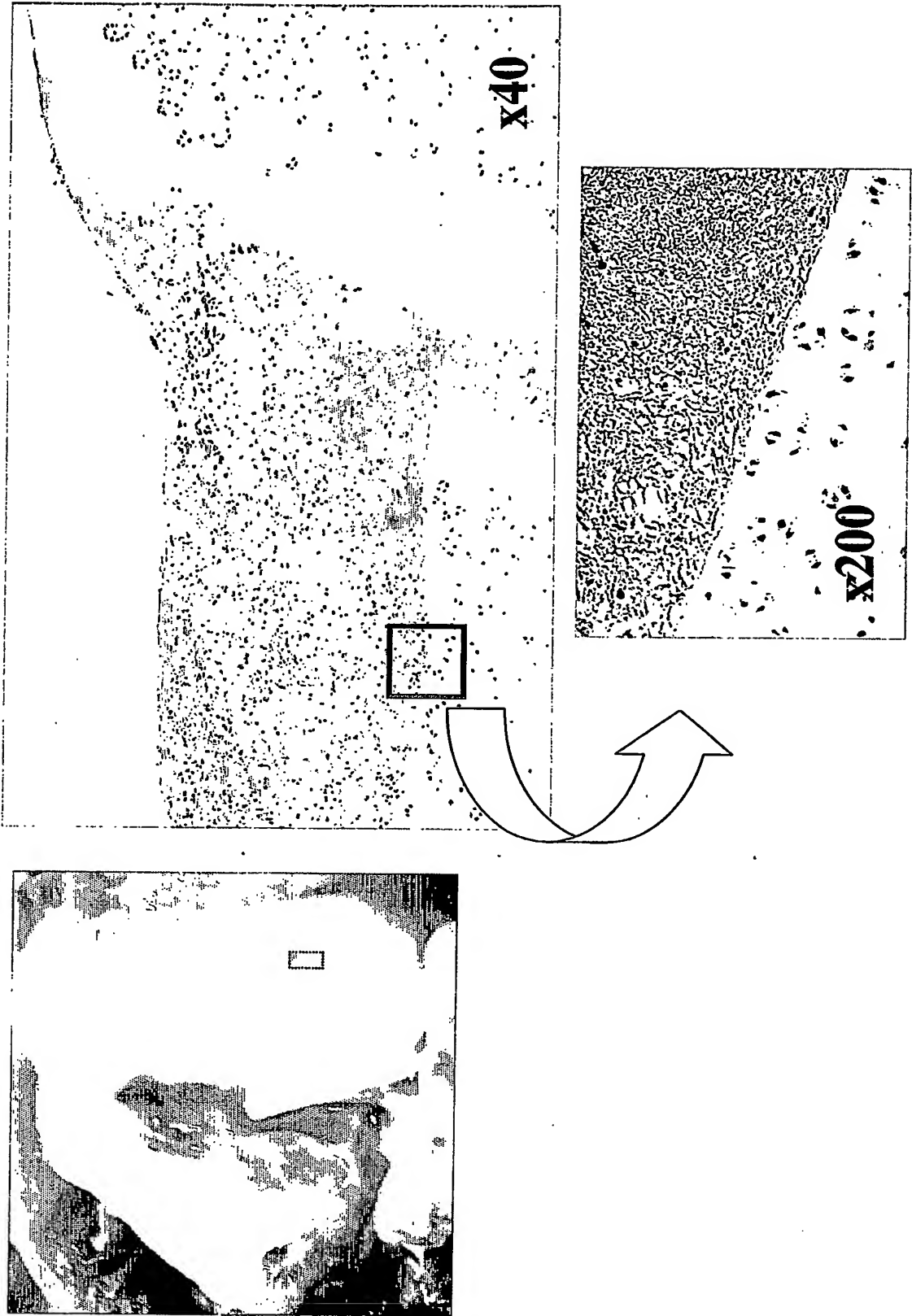
a



x200

b

FIG.24



25/46

FIG.25

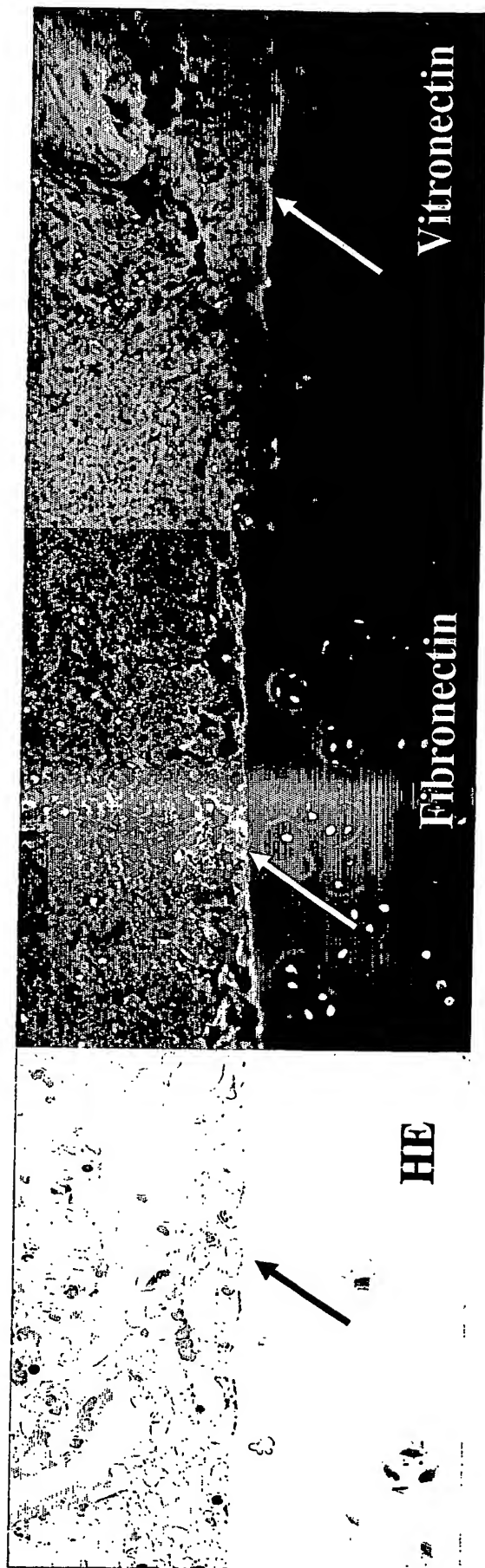


FIG.26

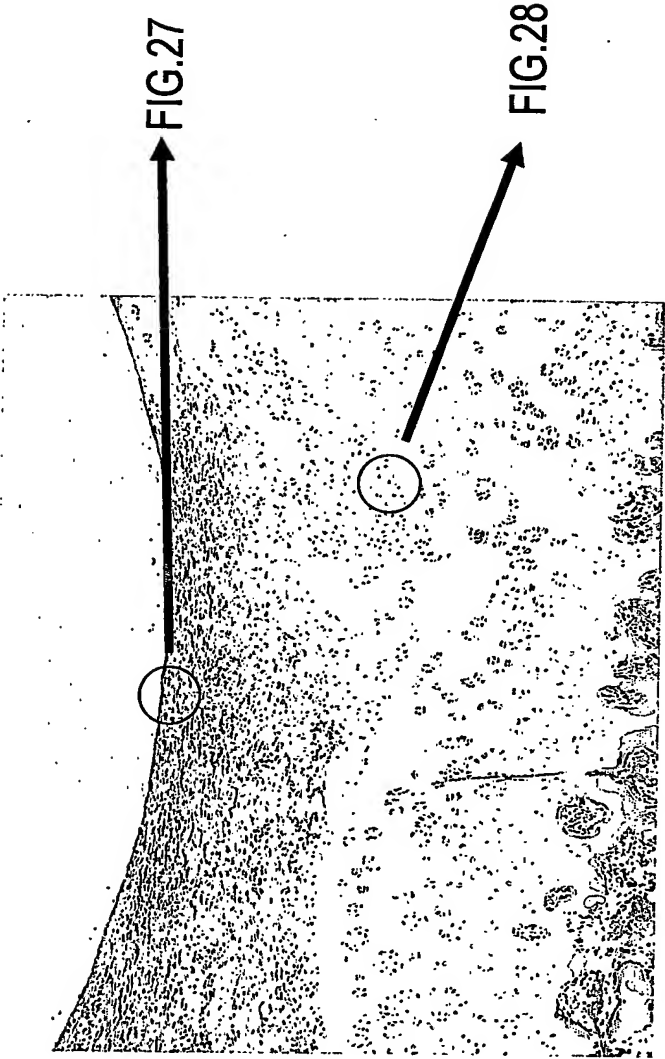


FIG.27

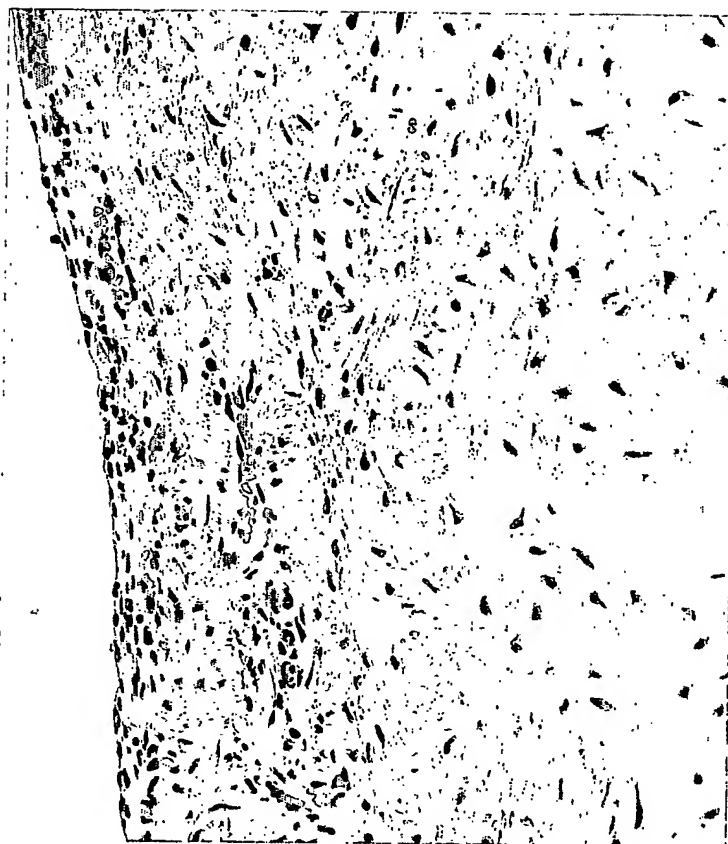
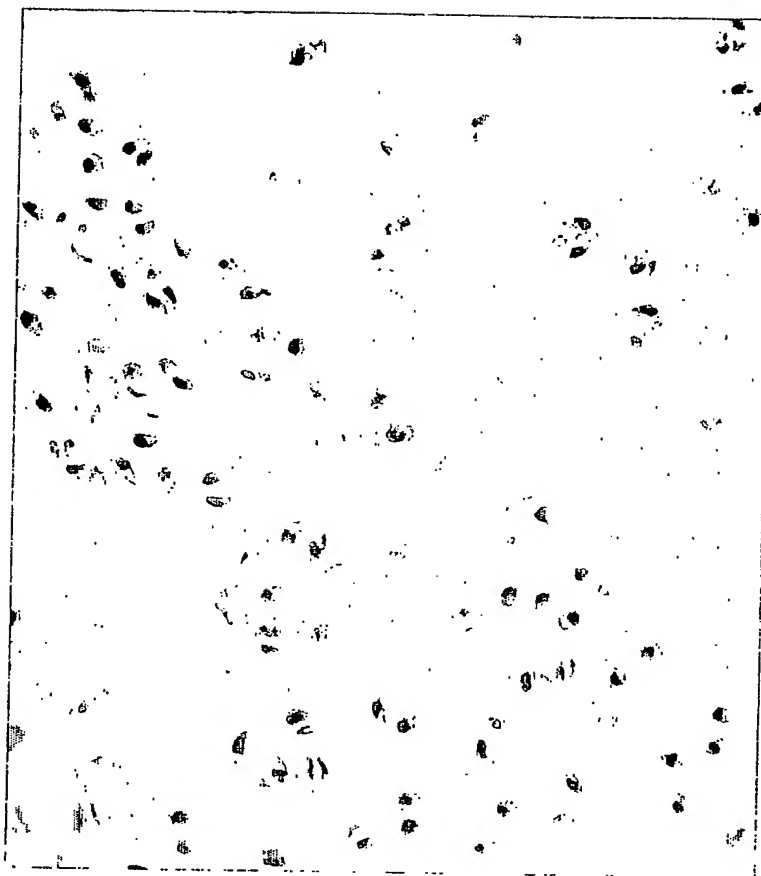


FIG.28



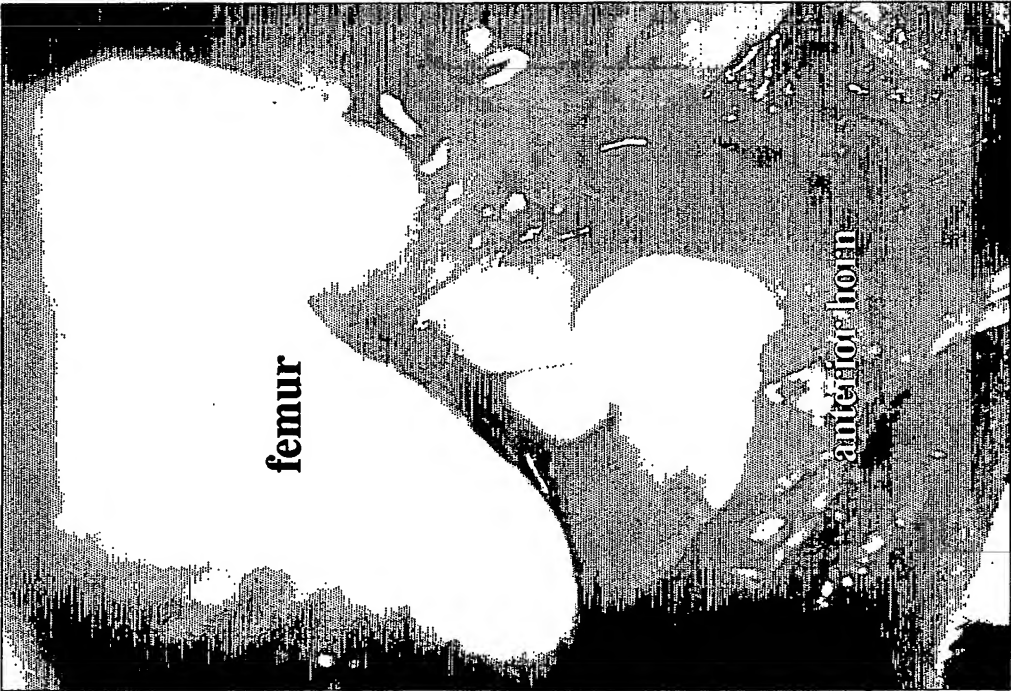
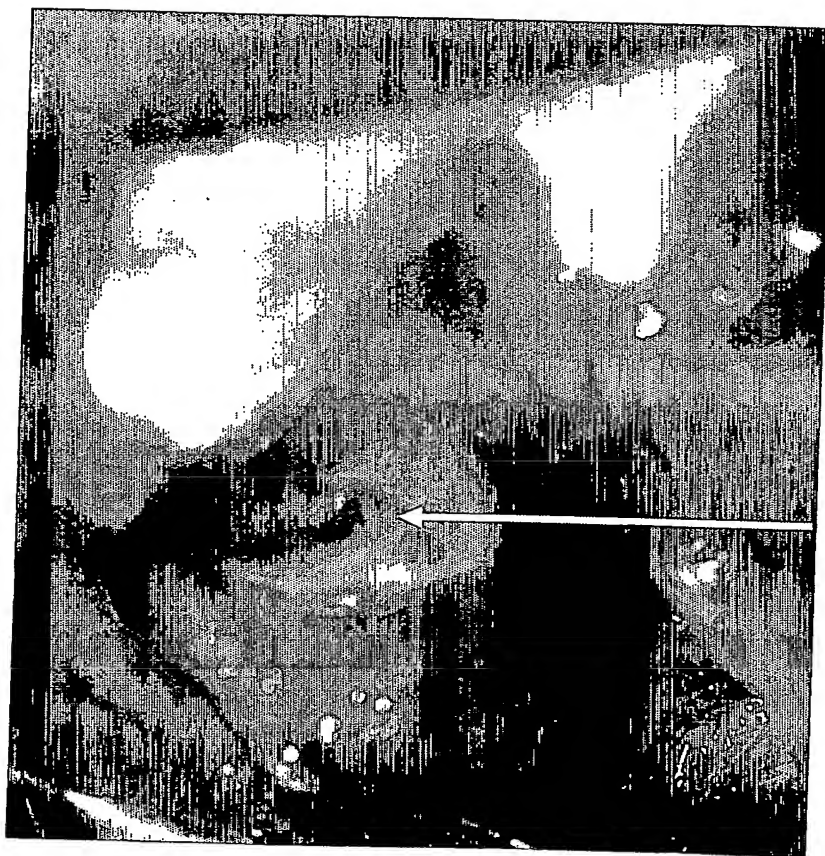
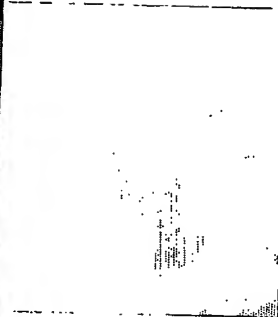


FIG.29

FIG.30



membrana synovialis
derived artificial tissue



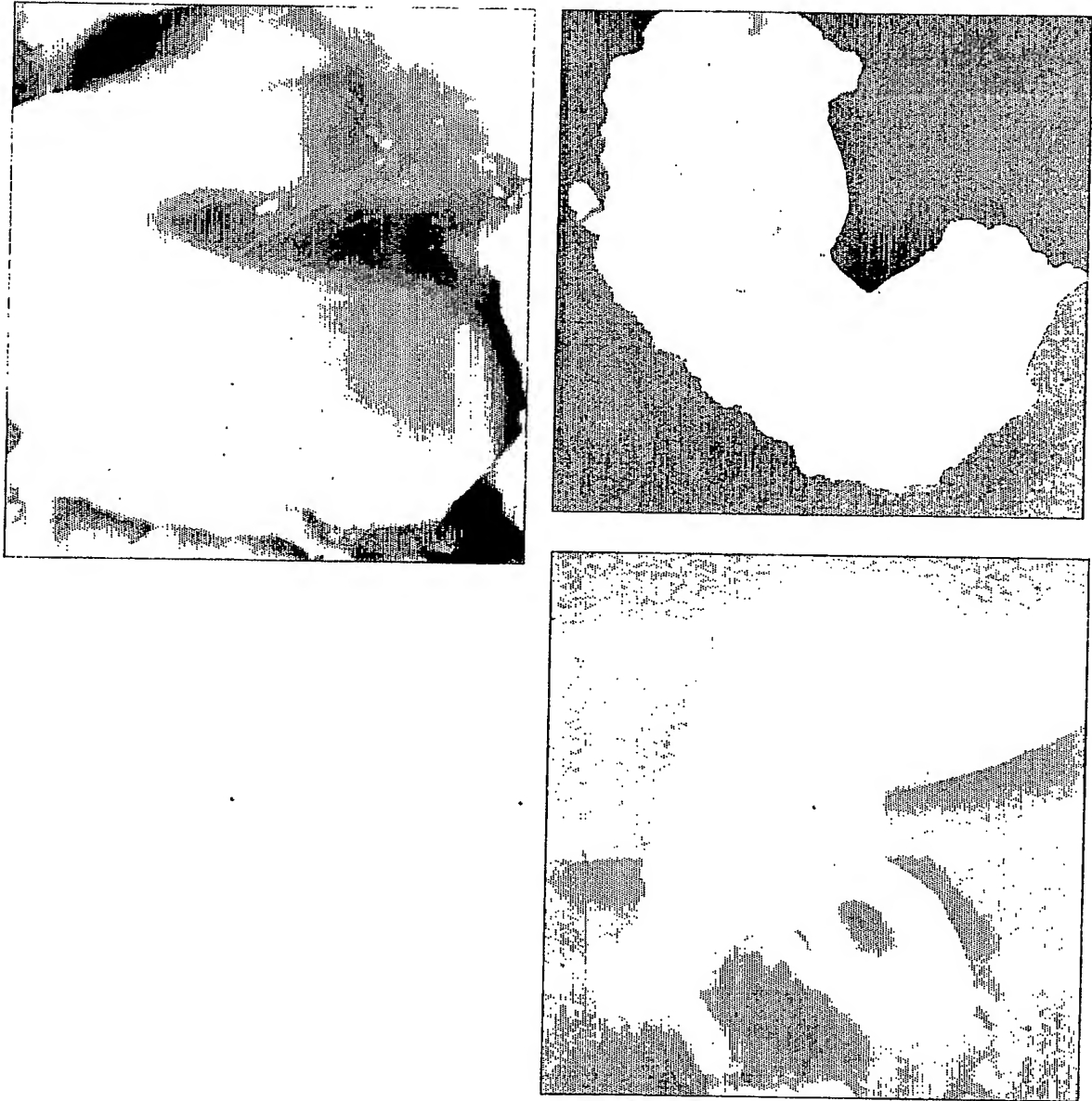


FIG.31

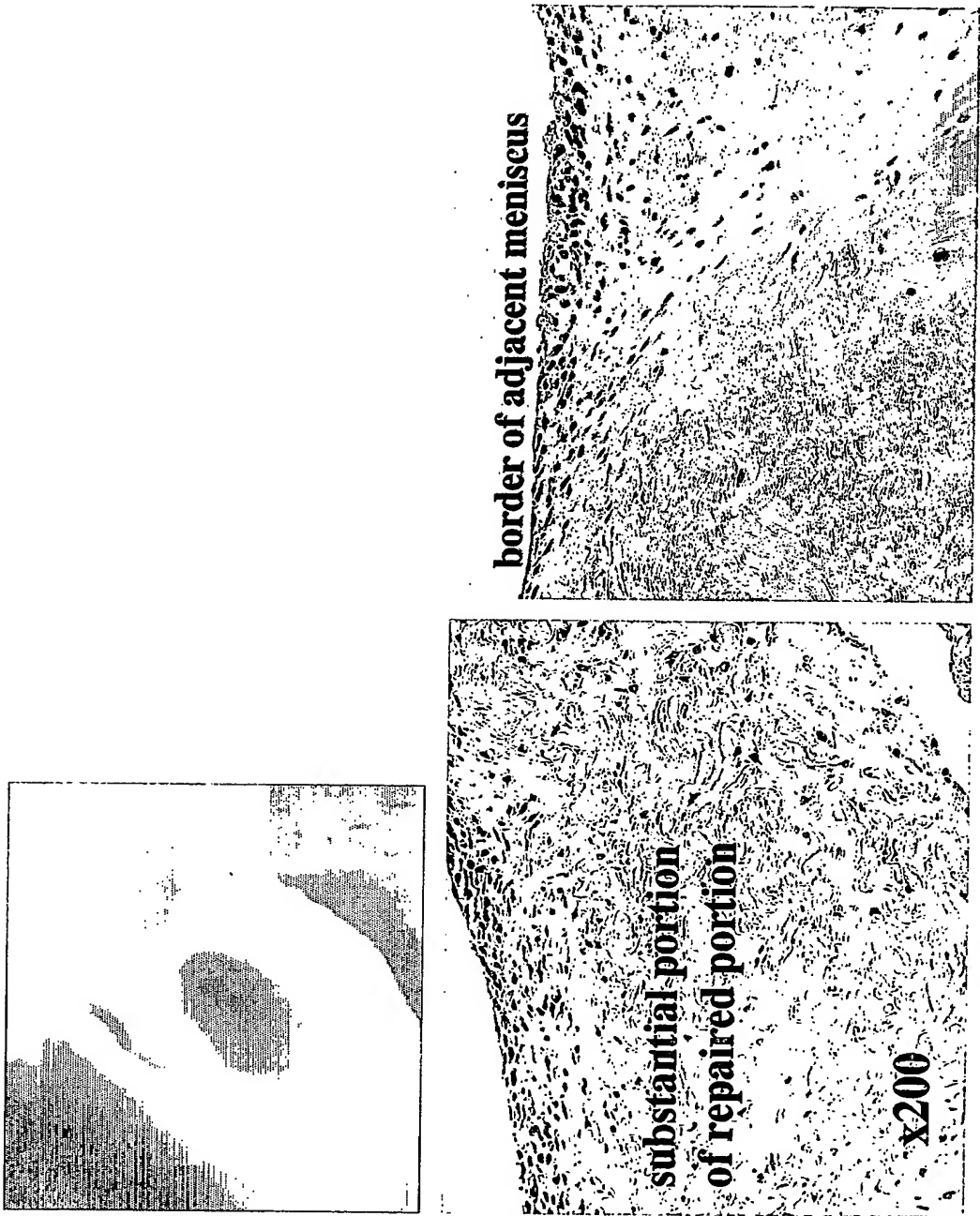
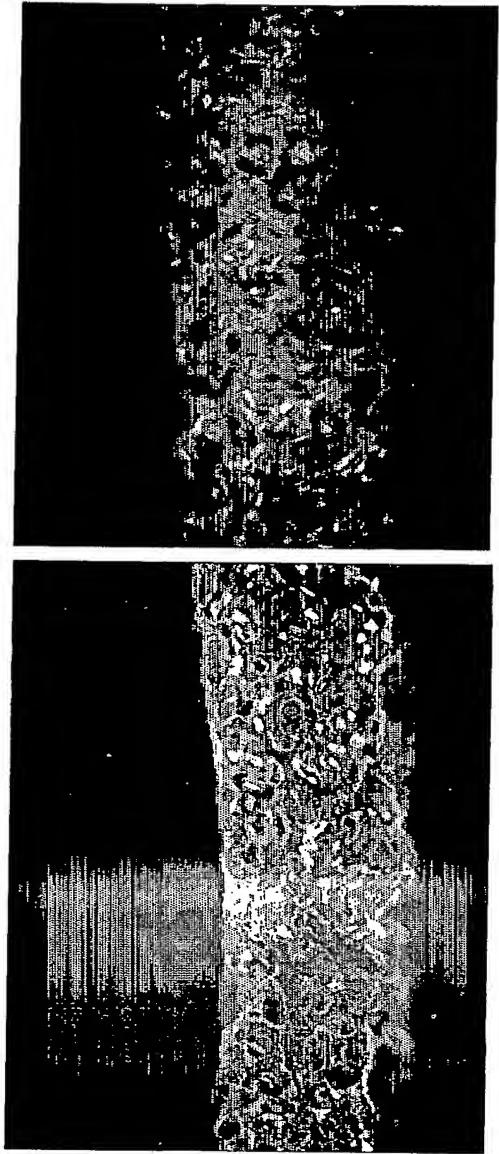


FIG.33



HE staining

Fibronectin

Vitronectin

FIG.34

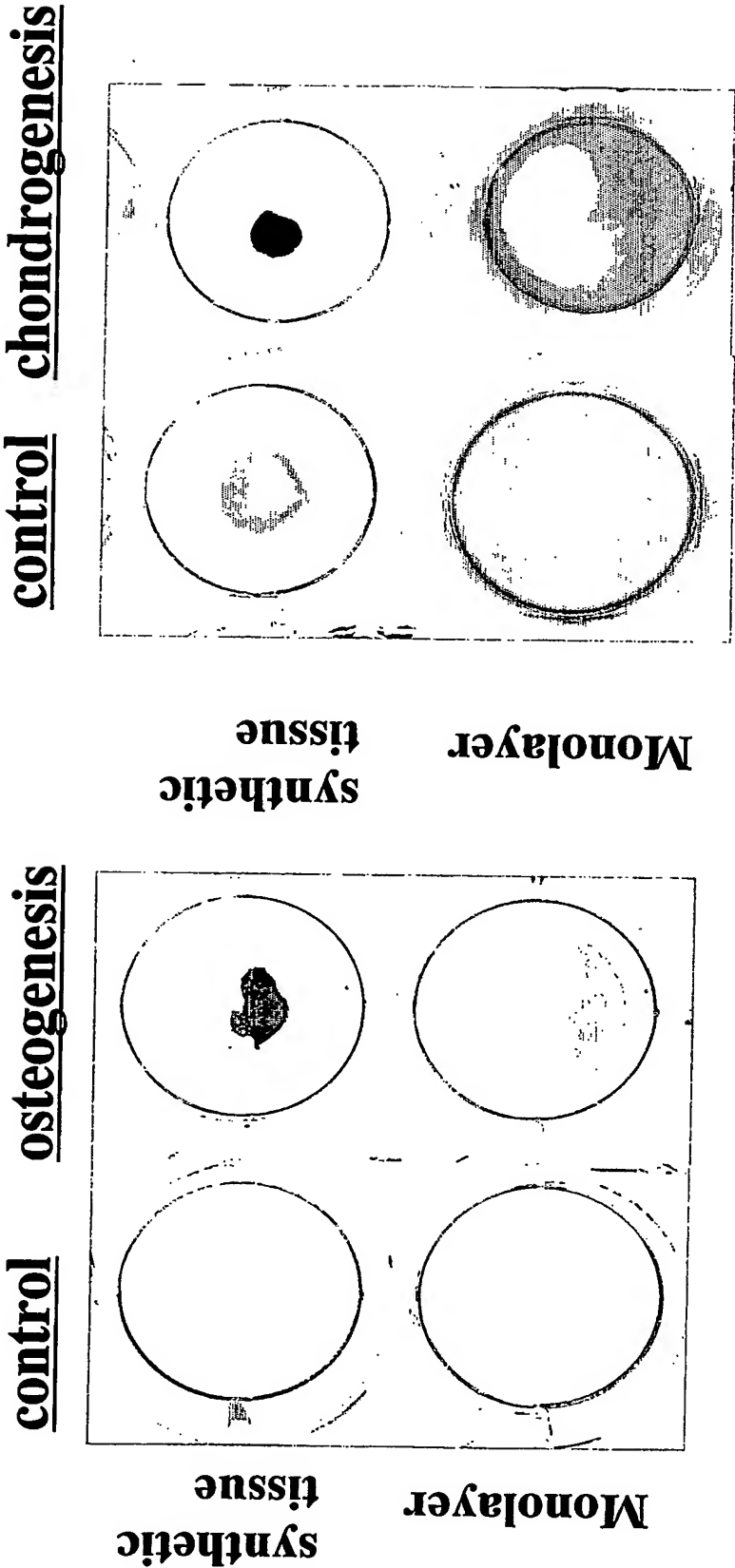


FIG.35

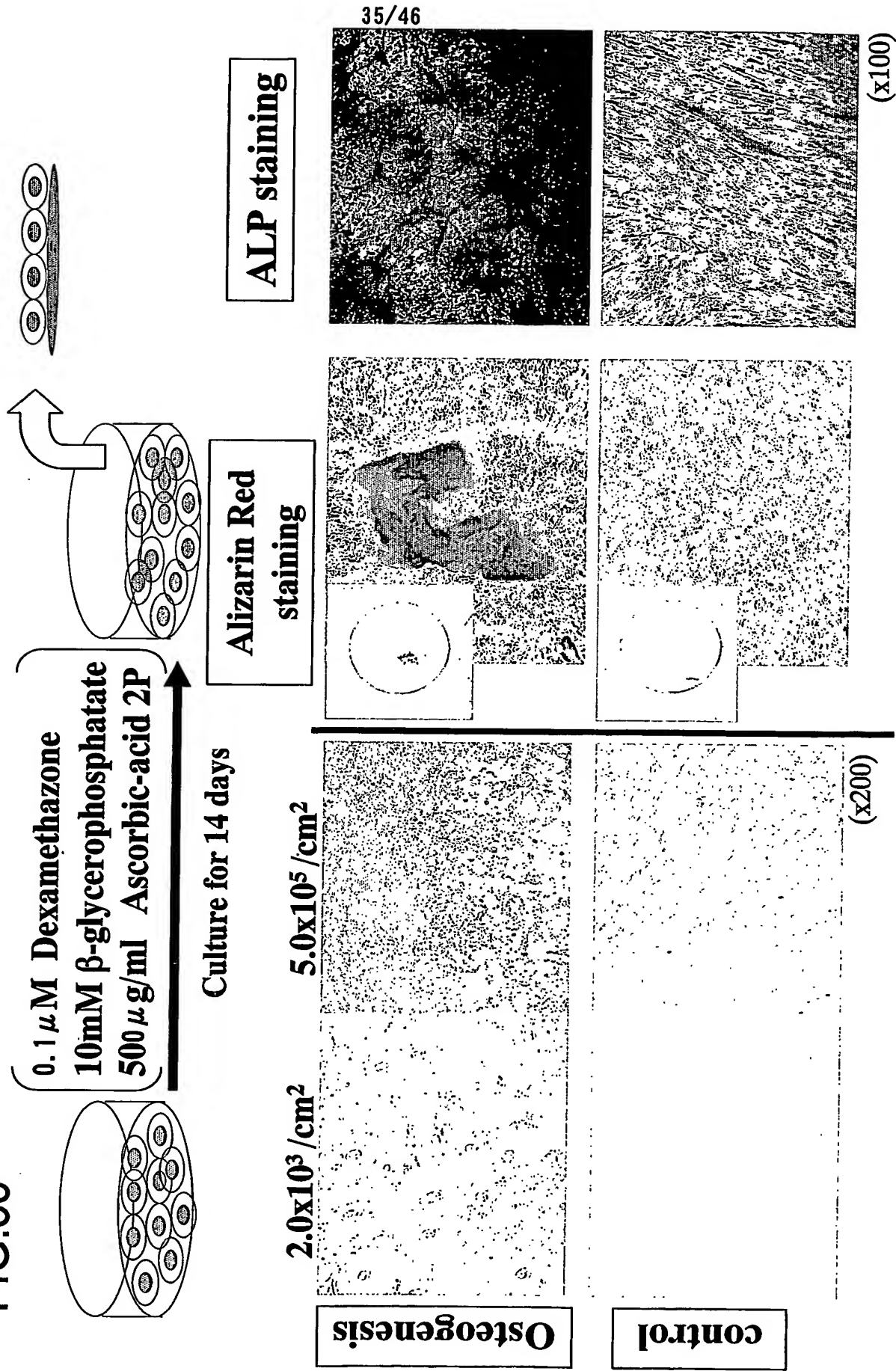


FIG.36

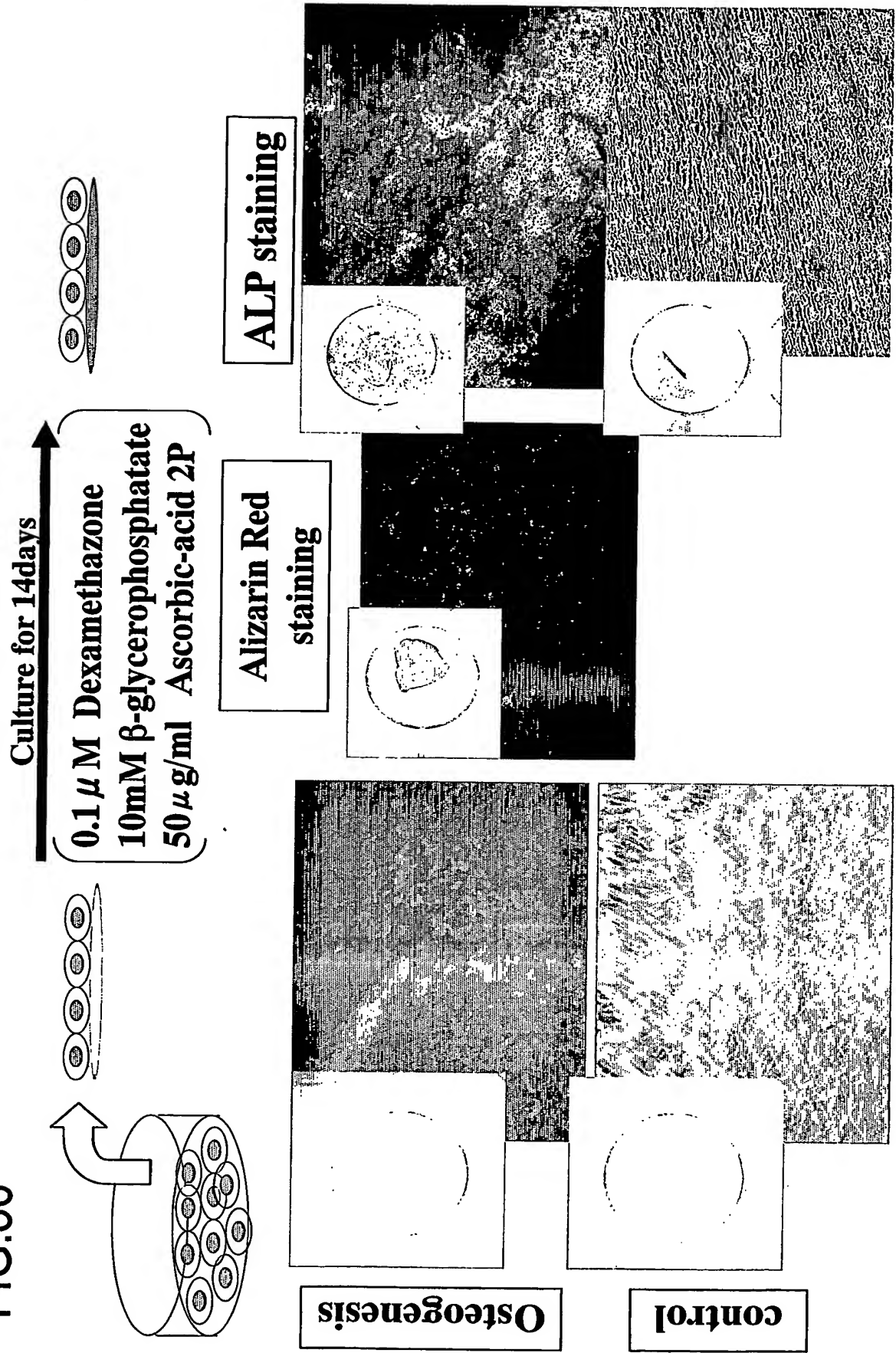


FIG.37



FIG.38

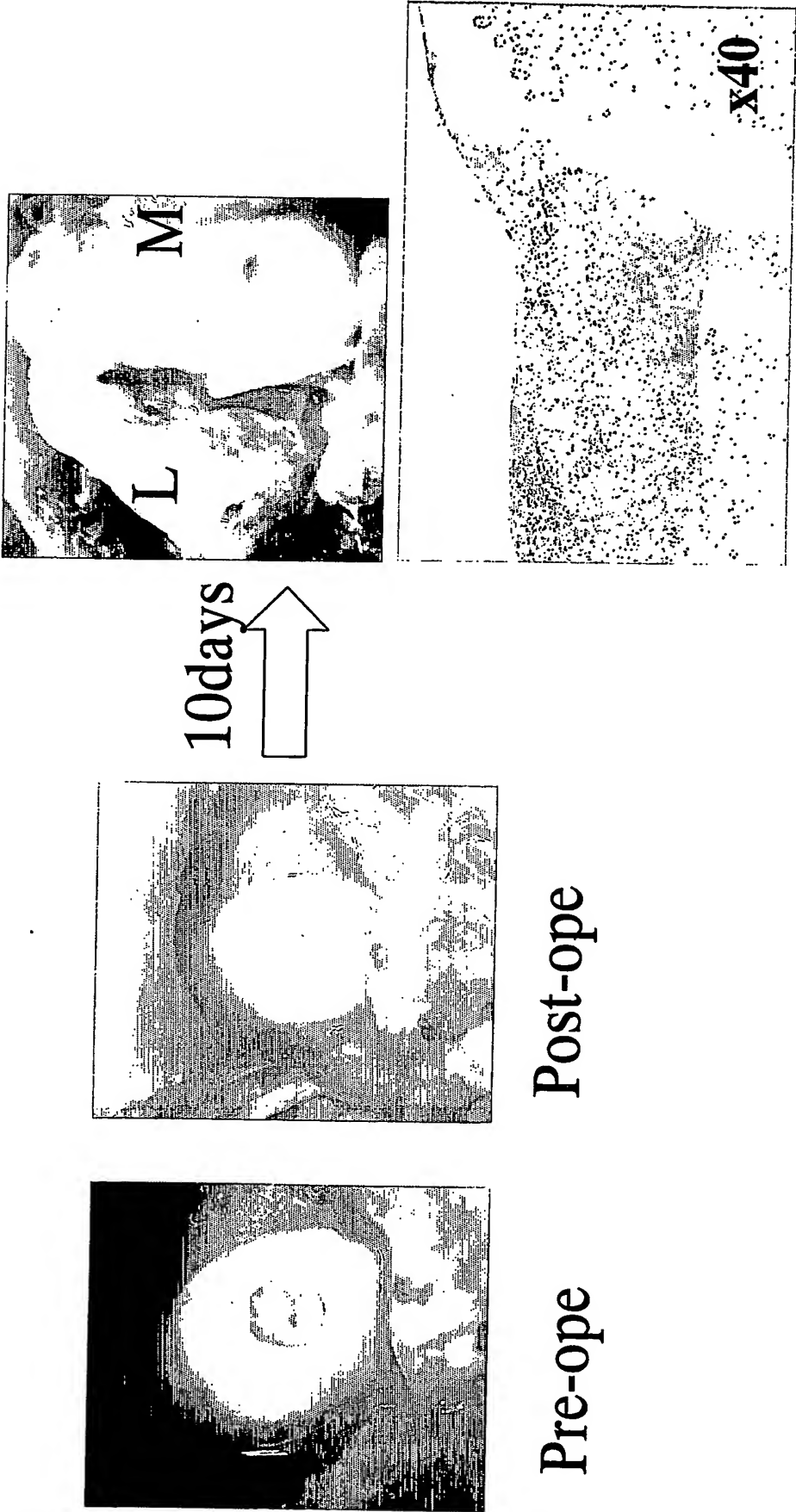


FIG.39

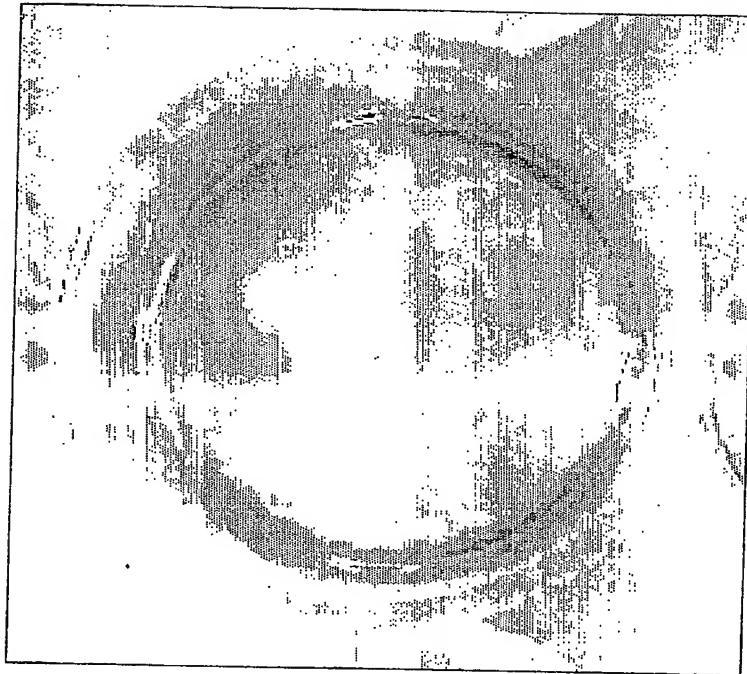


FIG.40

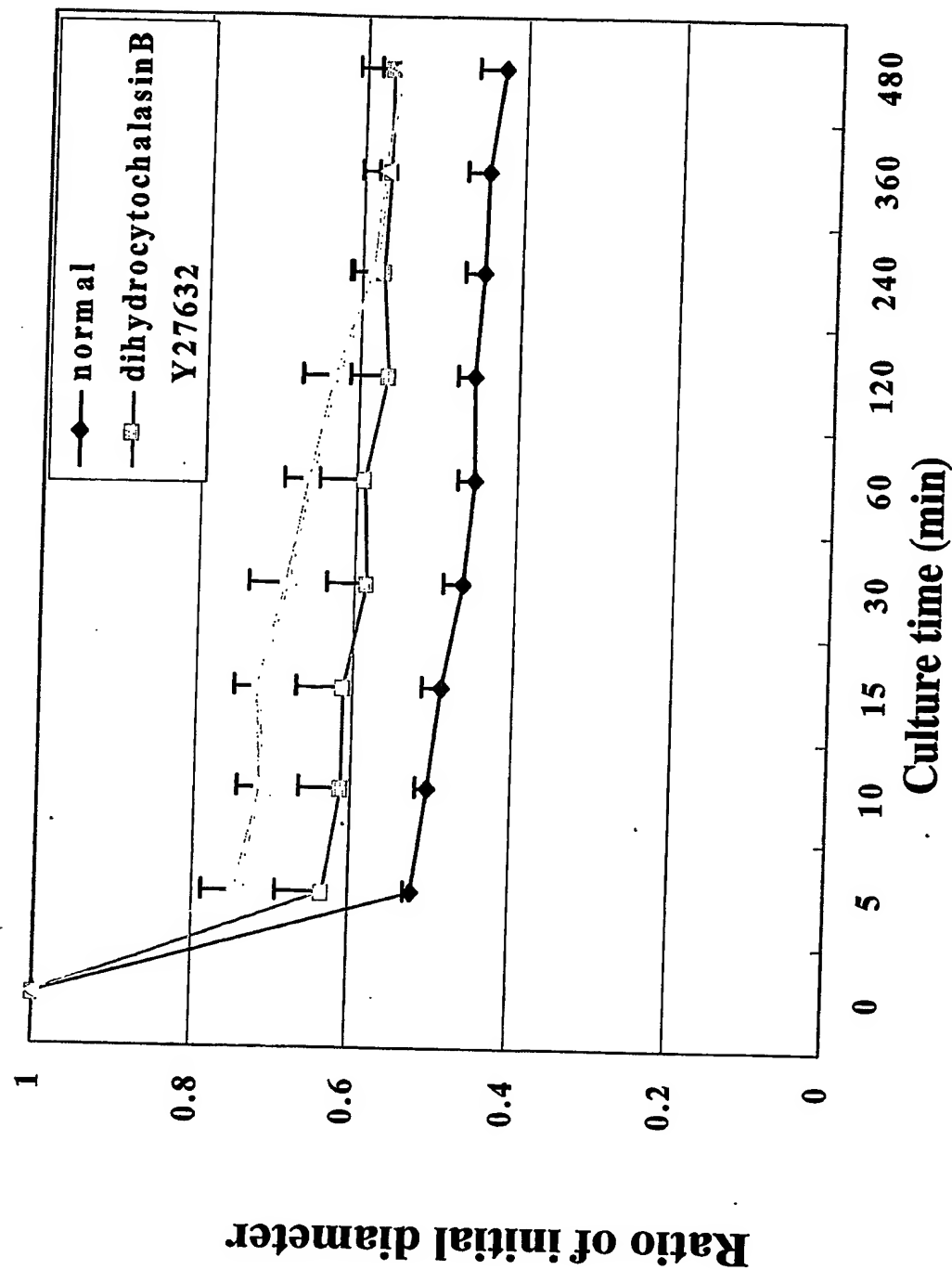


FIG.41

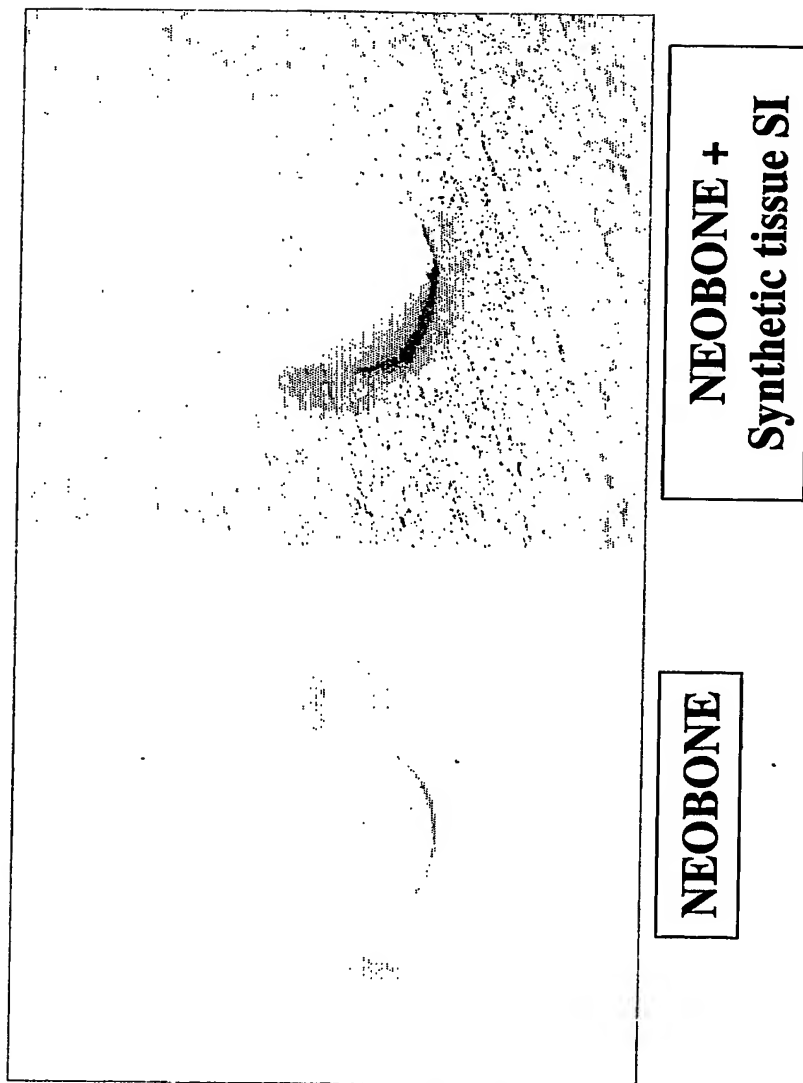


FIG.42

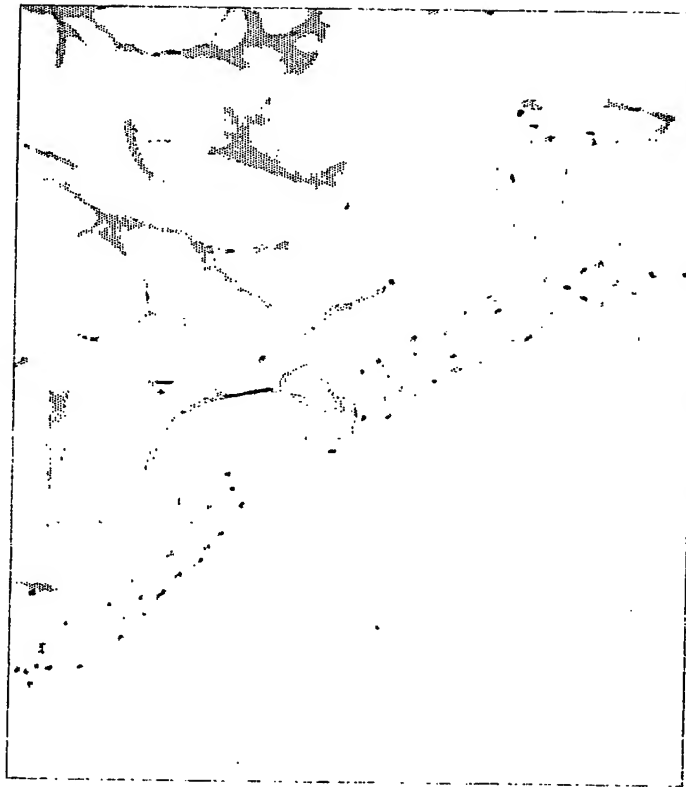


FIG.43

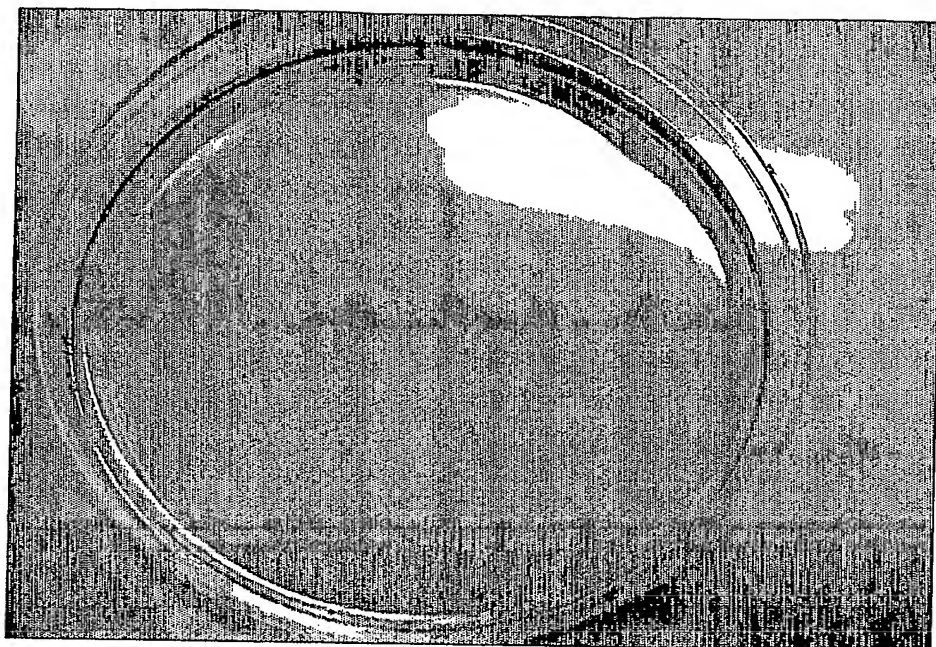


FIG.44

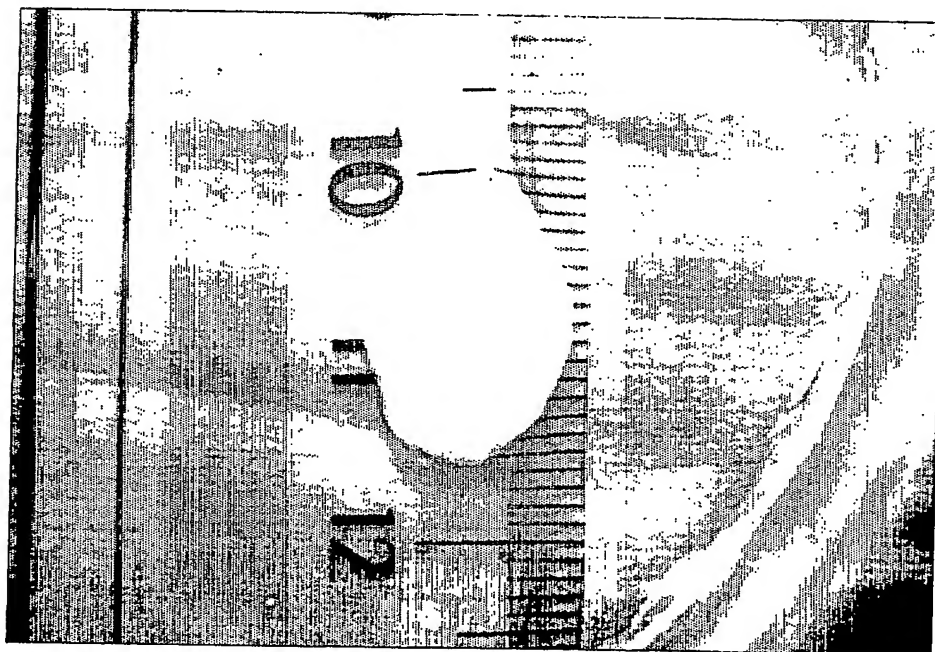


FIG.45

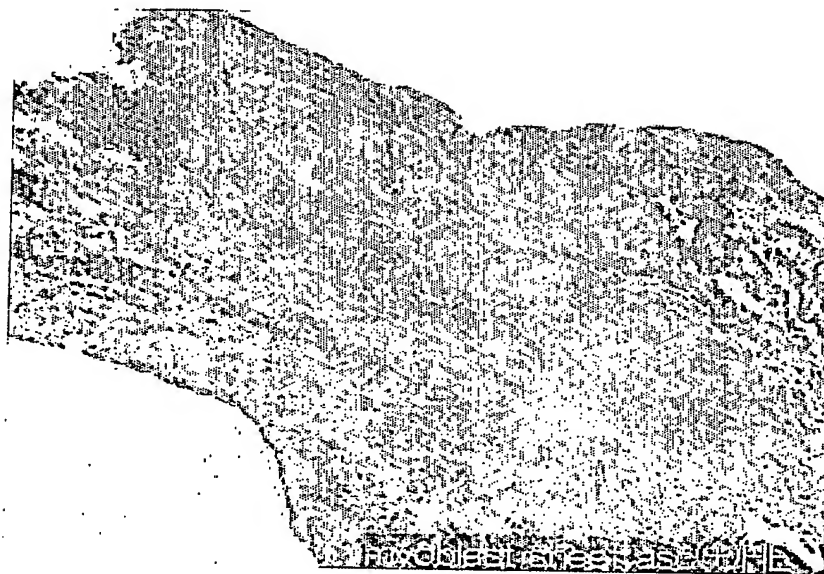


FIG.46

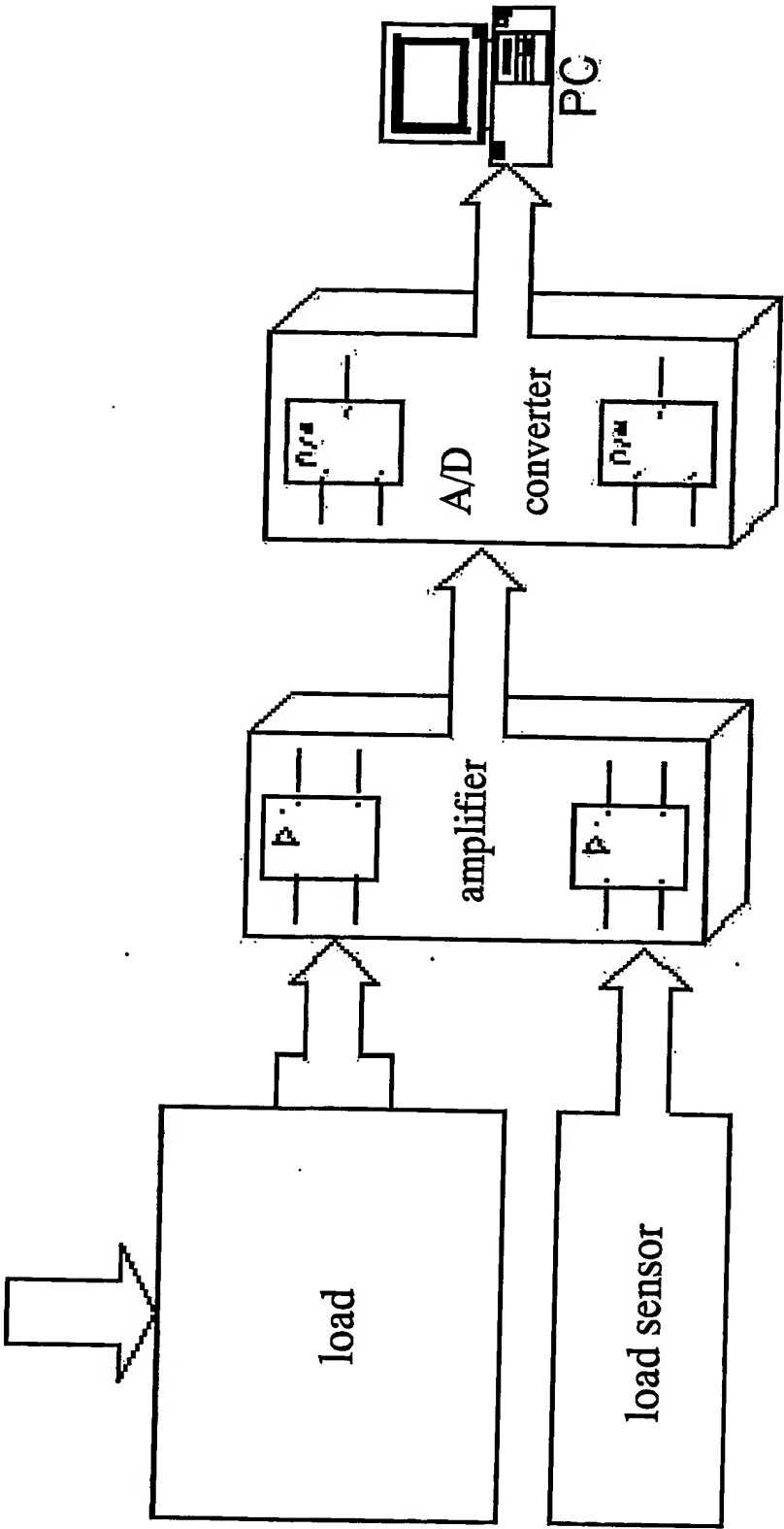
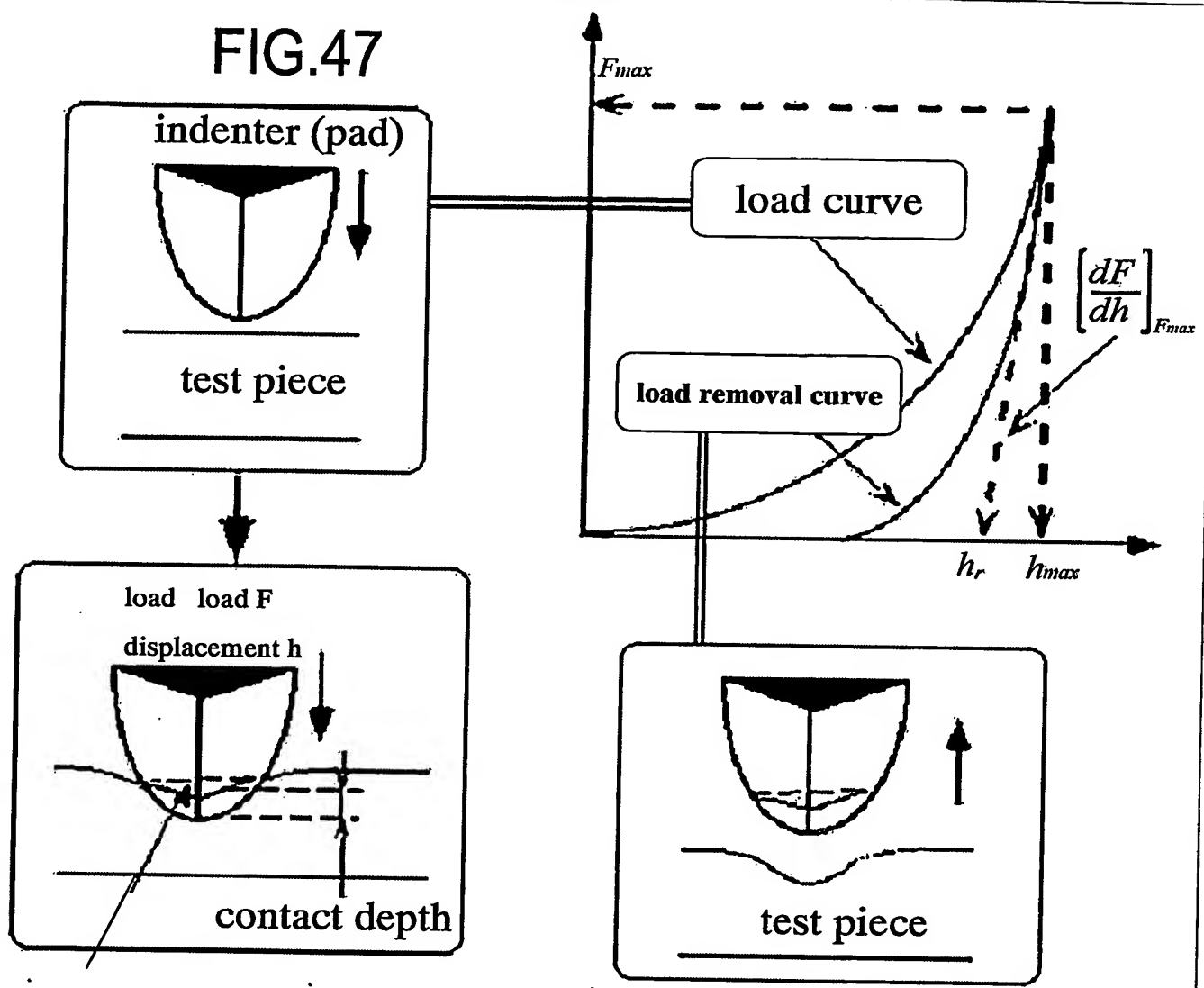


FIG.47



contact
projection A

$$H = \frac{F}{A} = \frac{F}{k_1 h_p^2}$$

$$E = \left[\frac{dF}{dh} \right]_{F_{max}} \frac{1 - \nu^2}{2 \cdot k_2 \cdot h_{pmax}}$$

$$h_p = h_r + 0.25(h_{max} - h_r)$$

F : load

A : contact projection area

h_p : contact depth

$k_1 k_2$: shape conflict

F_{max} : Maximum load

h_{max} : Maximum displacement

h_r : point at which tangential
line intersects

dF/dh : Gradient of tangential
line of load removal curve

ν : Poisson's ratio